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# AQUATRAIN

## CORRIDOR STUDY REPORT

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U. S. Department of the Interior  
Bureau of Reclamation  
Saline Water Transport and Use Office



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DEPARTMENT OF THE INTERIOR

AQUATRAN CORRIDOR STUDY REPORT

February 1984

Prepared by the

Bureau of Land Management, Division of EIS Services

for the

Bureau of Reclamation, Saline Water Transport and Use Office

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## PREFACE

The Aquatrain Corridor Study Report is divided into four chapters. Chapter 1 provides an overview and describes the methodology used for Phases I and II of the study. Phase I identified potential corridors and routes. Phase II analyzed Phase I corridors and resulted in recommendations to the Bureau of Reclamation of which corridors and routes to be dropped from further study and which to be carried forward to the environmental impact statement (EIS) scoping process.

Discussing Phase I results, Chapter 2 examines corridors eliminated from further study for not meeting project needs (going in the wrong direction or being excessively long) or for having known severe environmental or engineering constraints and explains the rationale for eliminating these corridors. Chapter 2 also identifies corridors inventoried for further consideration within the study area (as defined by the Bureau of Reclamation) for each affected state and describes physical and natural resource concerns and land use plans and concerns.

Chapter 3 presents the results of the Phase II analysis in three subsections: (1) conceptual corridors, (2) detailed corridors, and (3) detailed corridor assessments. The conceptual corridor subsection analyzes and provides rationale for corridors recommended for further consideration for EIS scoping and corridors eliminated from further study between various input and output points (coal, carbon dioxide, and saline water sources, power plants, and potential export sites). Each conceptual corridor recommended for further consideration for EIS scoping is shown on 1:1,000,000-scale maps (Maps 1-1 and 1-2 in map pocket), and corridor segments are marked by a series of points. The detailed corridor assessment subsection analyzes 11 corridors between Green River, Utah and the Intermountain Power Project (IPP) plant site near Delta, Utah, using a matrix of engineering and environmental screening criteria (detailed corridor assessment).

The report ends with a review of consultation and coordination with agencies and individuals (Chapter 4).

The Aquatrain Corridor Study is not a substitute for a National Environmental Policy Act compliance document. Corridors and routes selected jointly by private industry and the Bureau of Reclamation and reviewed by the public will be analyzed in depth in a forthcoming AQUATRRAIN Project EIS.

Inquiries on the Aquatrain Corridor Study should be submitted to

Project Manager  
Saline Water Transport and Use Office  
Bureau of Reclamation (ERC-190)  
P.O. Box 25007  
Denver, Colorado 80225



## SUMMARY

### Purpose of Aquatrain Project

The Bureau of Reclamation and its private industry partner, Aquatrain Inc., are proposing a buried pipeline system to transport coal from coal fields in southwest Wyoming, western Colorado, and central Utah to various existing or proposed power plant sites in Utah, Nevada, and California and to California ports for potential export to foreign markets. Liquid carbon dioxide would be the transport medium for the coal and possibly other commodities such as trona (located in geologic beds in southwest Wyoming). The carbon dioxide would be acquired mainly from a developing deep-well gas field in the Riley Ridge area of west-central Wyoming and from other sources in western Colorado and central Utah.

An additional component of the pipeline system would be the collection and transport in a separate buried pipeline saline water from sources within the Colorado River Basin to power plant sites in Wyoming, Utah, Nevada, and California. The saline water aspect of the project would help reduce the salinity of the Colorado River by up to 10 percent, having domestic and international (Republic of Mexico) benefits. Domestically, saline water would replace fresh water used or to be used at power plants for blow-down cooling. The use of saline water would thus free fresh water for other uses, such as for municipal and agricultural needs. At the same time, this method of reducing the salinity of the Colorado River could be less costly than building a more expensive network of evaporation ponds or desalinization plants. The amount of irrigated crop damage along the Colorado River Basin would also be reduced. Internationally, the project would help the United States comply with treaty obligations and agreements with Mexico to maintain the salinity of the Colorado River at or below specified levels as it flows into Mexico.

### Purpose of the Aquatrain Corridor Study

The Aquatrain Corridor Study has attempted to identify and evaluate at a cursory level corridor and route opportunities for transporting coal, saline water, and other commodities between input and output points (coal, carbon dioxide, and saline water sources, power plants, and potential export sites) within a designated study area. The study area extends from southwest Wyoming to southern and east-central California and includes western Colorado, Utah, northwest Arizona, and central and southern Nevada. A series of corridors and routes has been recommended for further consideration for EIS scoping and is shown on 1:1,000,000-scale maps.

### Study Results

Environmental, political, and land use concerns may be intense along the 1,200 to 1,400 miles of corridor between southwest Wyoming and potential export sites in southern California. From southwest Wyoming, through western Colorado, to the Price-Castle Dale area of Utah, problem areas would include corridors through Glenwood and De Beque canyons and the orchard area of

Clifton-Palisade and Grand Junction, Colorado. Slope stability\* and watershed values as related to wildlife and municipal and industrial uses would pose local and state concerns in central Utah, from the Price-Castle Dale area to the Intermountain Power Project (IPP) power plant site near Delta, Utah.

The use of one corridor being recommended for further evaluation, however, may be in question: the San Rafael Swell Corridor follows Interstate Highway 70, which has been designated a scenic highway by the San Rafael Management Framework Plan. This designation precludes development along the interstate.

In southern Nevada, a pipeline crossing the Las Vegas Valley area would create local political concerns about environmental impacts and land use restrictions. Seven routes through the Las Vegas Valley area have been conceptually analyzed.

Corridors entering southern California would cross the California Desert Conservation Area (CDCA) and should be confined to designated energy and utility corridors. In east-central California, political and land use concerns for crossing the Owens Valley would be expected to be high due to wildlife, watershed management, and land use considerations. Finally, environmental (air quality), political, and land use concerns are expected to be high for corridors to each of the four export sites along the coast of California.

Corridors crossing National Forest System land should also be confined to designated utility corridors. Corridors outside of designated corridors would require amending Forest Service land and resource management plans and developing acceptable mitigation for the proposed changes. Initial construction on the project may occur in the area between Castle Dale, Utah and the Intermountain Power Project (IPP) near Delta, Utah. The eleven corridors between Green River, Utah and the IPP power plant site have thus been assessed in more detail through the use of engineering and environmental screening criteria (Table 3-1). Of the 11 corridors, 9 are being recommended for further evaluation. The Price Canyon Corridor is being eliminated from further study because of the extreme narrowness of Price Canyon and the presence of many facilities within the canyon. The Ephraim Corridor is being eliminated because it passes through an area most likely to be identified for exclusion of all utility uses in the Manti-LaSal National Forest Land and Resource Management Plan. Any future corridor selection outside of any Forest Service designated utility/pipeline corridors would require amending Forest Service plans and developing acceptable mitigation for proposed changes. Alternative corridors exist for both of the corridors eliminated.

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\*In this report, slope stability refers to the resistance of any inclined surface to landslides (mass movement) due to either one or a combination of conditions involving soil, regolith, bedrock, and drainage.

**CHAPTER 1**  
**GENERAL OVERVIEW AND METHODOLOGY**  
**PHASES I AND II**



Chapter 1  
General Overview and Methodology  
Phases I and II

1.1 GENERAL OVERVIEW

1.1.1 General Description and Location of Aquatrain Project

The AQUATRRAIN Project pipeline system is proposed to transport (1) saline water and (2) coal in a liquid carbon dioxide slurry via separate pipelines to several power plants and port facilities. This project, a cooperative effort of the Bureau of Reclamation and Aquatrain Inc., is in the conceptual planning stage and is designed to meet the potential needs for coal and saline water for power plants that are proposed, existing, and under construction. Also being considered in planning the project are potential markets for coal export.

The saline water collection and transport pipeline system would intercept saline water within the Colorado River drainage basin before it enters the mainstream and transport it to power plants for use in cooling. Irrigation return flows to the Big Sandy River near Farson, Wyoming would be carried to the existing Jim Bridger power plant near Point of Rocks, Wyoming. Water from saline springs at Glenwood Springs and Dotsero, Colorado and South Salt Wash on the Dirty Devil River in Utah would be carried to the existing Intermountain Power Project (IPP) power plant near Delta, Utah. Irrigation return flows to the Price and San Rafael rivers near Price, Utah would be carried to the existing Hunter power plant near Castle Dale, Utah and possibly to the Huntington power plant near Huntington, Utah. Saline water flows in the lower Virgin River near Lake Mead, Nevada would be carried to the proposed Harry Allen power plant near Las Vegas, Nevada. Municipal waste water from the Las Vegas Valley area would be carried to the proposed Ivanpah power plant south of Las Vegas in California and to the existing Mohave Power plant on Lake Mohave in Nevada. Irrigation return flows from the Palo Verde Irrigation District near Blythe, California would be carried to the proposed Blythe power plant, also near Blythe. The general locations of the saline water sources are shown on Maps 1-1 and 1-2 (map pocket).

The coal/liquid carbon dioxide (CO<sub>2</sub>) slurry transport pipeline system, which would be separate from the saline water pipeline, would transport coal from mines in southwest Wyoming, western Colorado, and central Utah to existing or proposed power plants in Utah, Nevada, and California and possibly to port facilities for export. The following existing or proposed power plants were used in this study: Jim Bridger (Wyoming), IPP (Utah), White Pine Power Project (Nevada), Harry Allen (Nevada), Ivanpah (California), and Blythe (California).

The CO<sub>2</sub> to slurry the coal would be obtained from natural sources or recovered from power plant stack gasses and transported to slurry/preparation plants by pipelines. Possible CO<sub>2</sub> sources include the proposed gas processing plant south of the Riley Ridge well fields in southwest Wyoming; CO<sub>2</sub> wells at Gordon Creek and Farnham Dome near Price, Utah; and power plant stack gasses at the Craig power plant, Craig, Colorado, and the Hunter power plant near Castle Dale, Utah.

Slurry preparation plants (coal loading points on the pipeline system) were considered to be located at Rock Springs, Wyoming; Red Desert (Point of Rocks), Wyoming; Axial, Colorado; Grand Junction, Colorado; Emery, Utah; and Hiawatha, Utah. Major coal mining areas used in the study are shown on Map 1-1. The locations of the power plants and CO<sub>2</sub> sources are shown on Maps 1-1 and 1-2.

Depending on future economic conditions and potential new coal markets, more coal delivery points could be added as the AQUATRRAIN Project's scope is further defined. In addition, this report addresses corridors to six potential export sites: the port of Oxnard; the port of Long Beach; the port of Los Angeles; Gaviota, California; the port of San Diego (later dropped from consideration); and the Gulf of California (USA-Mexico border). This study addressed corridors leading to these ports should future foreign coal markets develop or CO<sub>2</sub> be needed for on- and off-shore enhanced oil recovery in California.

### 1.1.2 Objectives of Corridor Study

The objectives of this Corridor Study were threefold: (1) to identify corridors for the AQUATRRAIN Project; (2) to evaluate in detail 11 of these corridors between Green River, Utah and the IPP power plant; and (3) to recommend a set of corridors and routes between various input and output points (coal, CO<sub>2</sub>, and saline water sources, power plants, and export sites) to be further assessed during EIS scoping.

### 1.1.3 Study Process

The study consisted of two phases: corridor identification (Phase I) and corridor evaluation (Phase II). Under Phase I, data on existing and potential corridors and routes in Wyoming, Colorado, Utah, Arizona, Nevada, and California was collected from published literature, planning organizations, and federal offices. (See Chapter 4: Consultation and Coordination.) Formally designated corridors, existing rights-of-way, and potential corridors and routes were identified. During Phase I the study team assessed all corridors using a 10-mile width. Some corridors were eliminated during Phase I because they did not meet project needs (running in wrong direction, being too long, or having known severe environmental or engineering constraints).

Under Phase II, screening criteria were developed jointly by the staffs of the Bureau of Reclamation, Saline Water Transport and Use Office and the Bureau of Land Management (BLM), Division of EIS Services. Comment review on the screening criteria was also acquired from the Forest Service (Regions 2, 4, and 5) and the Upper and Lower Colorado River Regional Offices of the Bureau of Reclamation. The study team then applied these criteria to the 11 corridors between Green River, Utah and the IPP plant site near Delta, Utah, reducing the corridor width from 10 miles to 1 mile. The team performed a more detailed analysis of these 11 corridors because the initial construction of the Aquatrain pipeline might occur in this area. In addition, Phase II recommended a set of corridors and routes between input and output points to be presented during EIS scoping. Phase II also recommended corridors for elimination from further study for various reasons as discussed in Chapter 3. The results of Phase II are presented in this document and shown on Maps 1-1 and 1-2 at a scale of 1:1,000,000 (see map pocket).



Potential routes and corridors were originally compiled on U.S. Geological Survey (USGS) 1:500,000-scale state maps, which were used as work maps in conjunction with 1:250,000-scale topographic maps. Corridors recommended for further consideration for EIS scoping during Phase II were drafted on a series of 39 USGS 1:250,000-scale topographic maps. These topographic maps, providing greater detail than Maps 1-1 and 1-2 included with this report, are on file with the Bureau of Reclamation. Copies may be obtained from the Project Manager, Saline Water Transport and Use Office, Bureau of Reclamation (ERC-190), P.O. Box 25007, Denver, Colorado 80225. These 39 maps are indexed on Map 1-3. All corridors or routes identified by this study and discussed in Chapter 2 have been placed on individual state maps (1:500,000 scale). Copies of these maps may also be obtained from the Project Manager.

#### 1.1.4 Definition of Corridors

This study defined corridors as identified linear areas that allow opportunities for the location of transmission pipelines. The corridors are at most 10 miles wide except between Green River, Utah and the IPP power plant, where they are 1 mile wide or less. This corridor definition did not apply to the urbanized Las Vegas Valley area where routes have been identified that are 1 mile wide or less.

#### 1.1.5 Relationship of Corridor Study to Later Studies

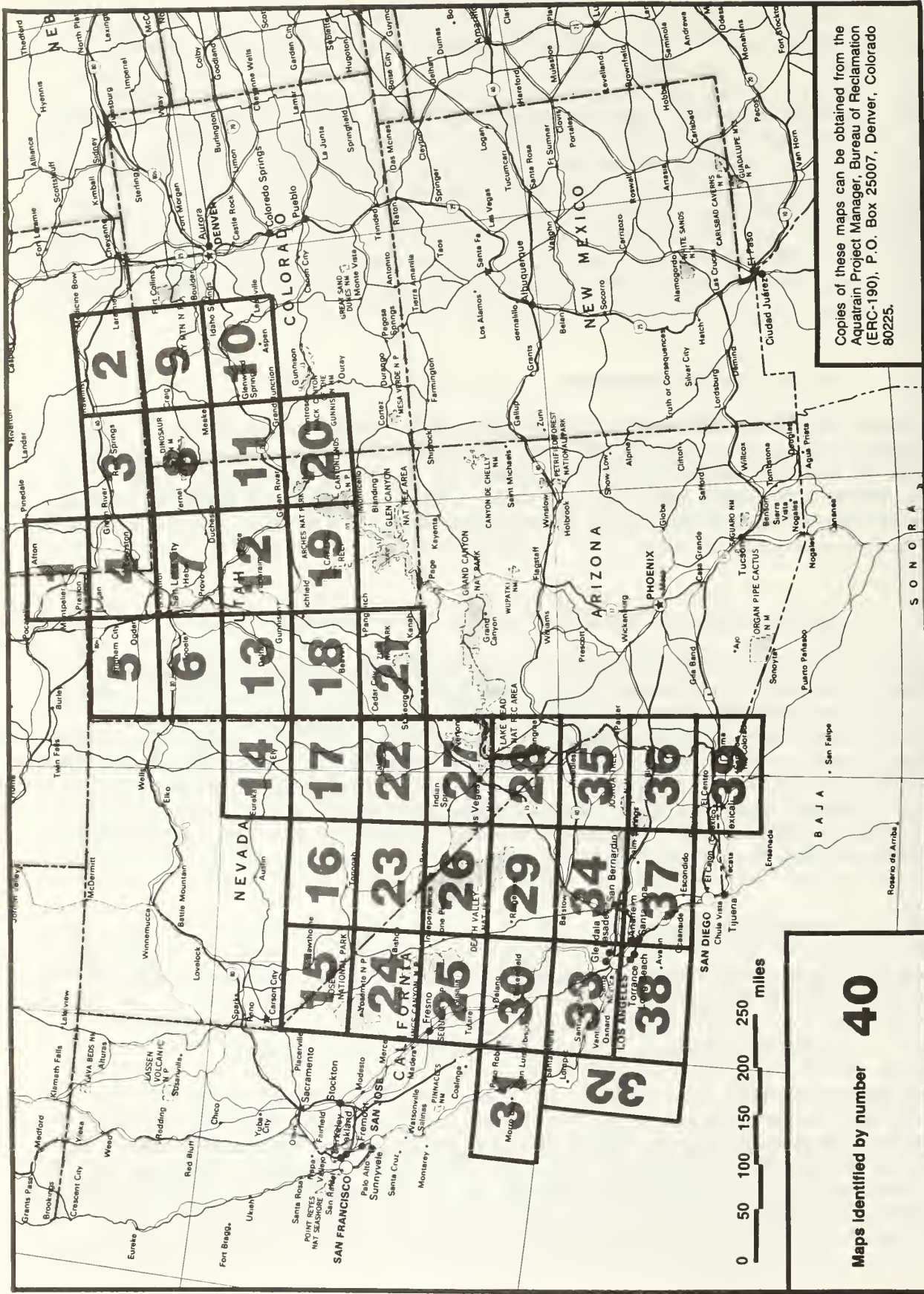
This Corridor Study is a preliminary step in the planning process for the AQUATRRAIN Project. The Bureau of Reclamation will use the data presented in this study to supplement other project information and prepare a plan formulation working document (PFWD) and project description. BLM will use the project description in preparing an environmental impact statement (EIS). In addition, the Bureau of Reclamation will use the results of this study to submit a formal application to the Department of the Interior and the Department of Agriculture, Forest Service for rights-of-way under Title V of the Federal Land Policy and Management Act of 1976.

### 1.2 STUDY METHODOLOGY

The methodology of the Aquatrain Corridor Study involved two phases and six tasks as shown in Figure 1-1.

#### 1.2.1 Phase I--Mapping of Data and Corridor Identification

The objective of Task 1 of Phase I of the Aquatrain Corridor Study was to compile data from existing land use plans (Forest Service land and resource management plans, BLM management framework and resource management plans, and plans of other public planning entities), EISs, environmental assessments, corridor studies, and other studies that would identify formally designated corridors, existing rights-of-way, and potential new rights-of-way and corridors. The study team used the following data collection procedures.



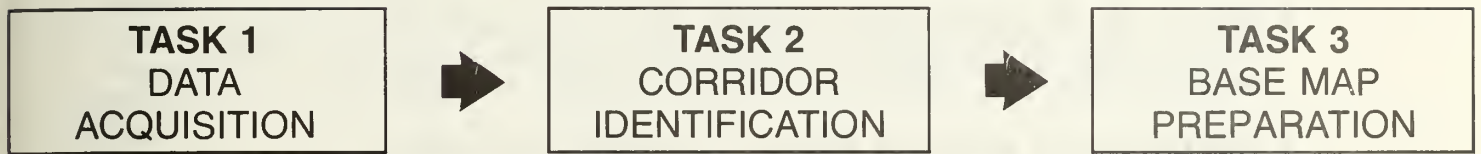
Copies of these maps can be obtained from the  
 Aquatrain Project Manager, Bureau of Reclamation  
 (ERC-190), P.O. Box 25007, Denver, Colorado  
 80225.

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Maps identified by number

MAP 1-3 INDEX TO 1:250,000-SCALE TOPOGRAPHIC MAPS OF RECOMMENDED CORRIDORS AND ROUTES

# PHASE I - MAPPING OF DATA AND CORRIDOR IDENTIFICATION



# PHASE II - EVALUATION AND SCREENING OF CORRIDORS

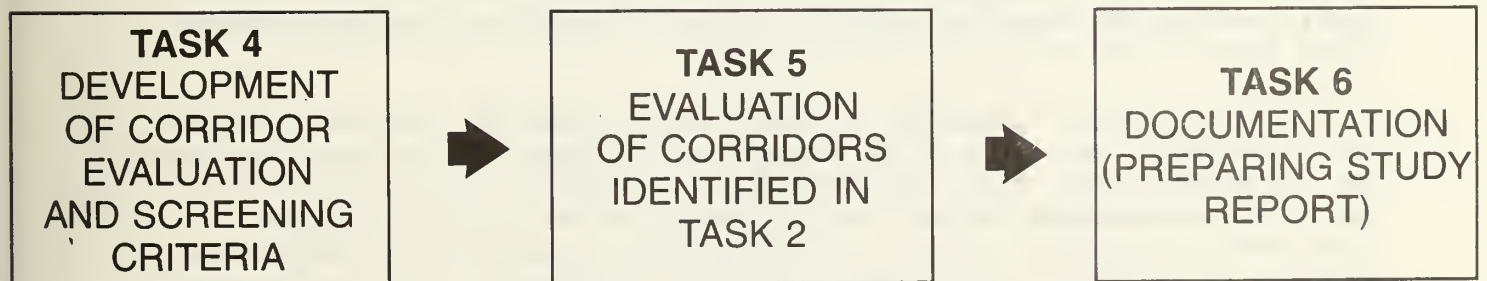


FIGURE 1-1 AQUATRIN CORRIDOR STUDY METHODOLOGY

- Review and evaluation of all applicable environmental documents, corridor studies, and land use plans in BLM's Denver Service Center library that analyze linear corridors or rights-of-way within the study area.
- Use of BLM's Denver Service Center computer services to conduct a literature search for other environmental documents, corridor studies, and land use plans that analyze linear corridors or rights-of-way within the study area.
- Review and discussion with planning entities and federal offices of data related to locations of potential corridors and routes within Wyoming, Colorado, Utah, Arizona, Nevada, and California.
- Acquisition of data from federal land managing agencies.

In Task 2 of Phase I--corridor identification and map development--the study team reviewed the data acquired in Task 1 to determine the locations of designated corridors and rights-of-way. Potential new corridors were also identified to link designated corridors and rights-of-way and to avoid problem areas or develop corridors that would reduce public controversy.

In Task 3 of Phase I--base map preparation--designated corridors, rights-of-way, and potential new corridors were recorded on USGS 1:500,000-scale state topographic work maps for each affected state.

### 1.2.2 Phase II--Evaluation and Screening of Corridors

The objective of Phase II--evaluation and screening of corridors-- was twofold: (1) to recommend to the Bureau of Reclamation the corridors, corridor segments, or specific routes to be carried forward to the EIS public scoping meetings and to be eliminated from further study and (2) to present rationale for these recommendations.

In Task 4, corridor evaluation and screening criteria were developed to be applied during the detailed analysis of the 11 identified corridors between Green River, Utah and the IPP power plant.

In Task 5, corridors identified in Task 2 were evaluated. Corridors between input and output points, such as between the Big Sandy saline water source and the Jim Bridger power plant (Wyoming) were identified at a conceptual level and either recommended for further consideration during EIS scoping or eliminated from further study. The rationale for recommending corridors is provided in the text, and corridor locations are shown on 1:1,000,000-scale maps (Maps 1-1 and 1-2 in map pocket).

The study team also evaluated in detail the 11 corridors between Green River, Utah and the IPP power plant (Utah) by applying engineering and environmental screening criteria developed in Task 4. Evaluations were based on inventory data; results of aerial and on-the-ground reconnaissance; experiences with other projects within the study area; and interviews with managers, resource specialists, and planners. Using screening criteria, related factors, and

information from each corridor description, the study team then examined potential engineering and environmental problem areas, identified them on work maps, and displayed this information in a matrix (Table 3-1, Aquatrain Corridor Assessments). The product of this detailed evaluation identifies the optimal corridors across the Wasatch Plateau in Utah.

The national forests are currently preparing forest land and resource management plans that will identify utility and transportation corridors. The plans will also identify areas where corridor use will not be permitted (exclusion areas) and sensitive environments where intensive mitigation would be required for projects (avoidance areas). The use of any designated national forest corridors would require following all Forest Service regulations and mitigating measures for project construction and operation. As appropriate, the re-evaluation of the Roadless Area Review and Evaluation (RARE II) will also be incorporated in the Forest Service planning effort. Every attempt was made to tie the results of this study to the corridors being identified in the forest land and resource management plans.

Task 6, the final task of Phase II and of the Corridor Study, consisted of documentation--the preparation of the Aquatrain Corridor Study Report.



CHAPTER 2  
PHASE I RESULTS





## Chapter 2 Phase I Results

The overall objective of Phase I of this Corridor Study was to identify to the extent possible all potential corridors and routes for the AQUATRAN Project. As determined by the Bureau of Reclamation, the study area consists of southwest Wyoming, western Colorado, Utah, Southern Nevada, and southern California, including the Owens Valley (see Map 2-1). (Northwest Arizona was ultimately dropped as part of the study area due to significant environmental concerns regarding a corridor along the Virgin River Canyon.)

The Phase I corridor identification was divided into the following subsections:

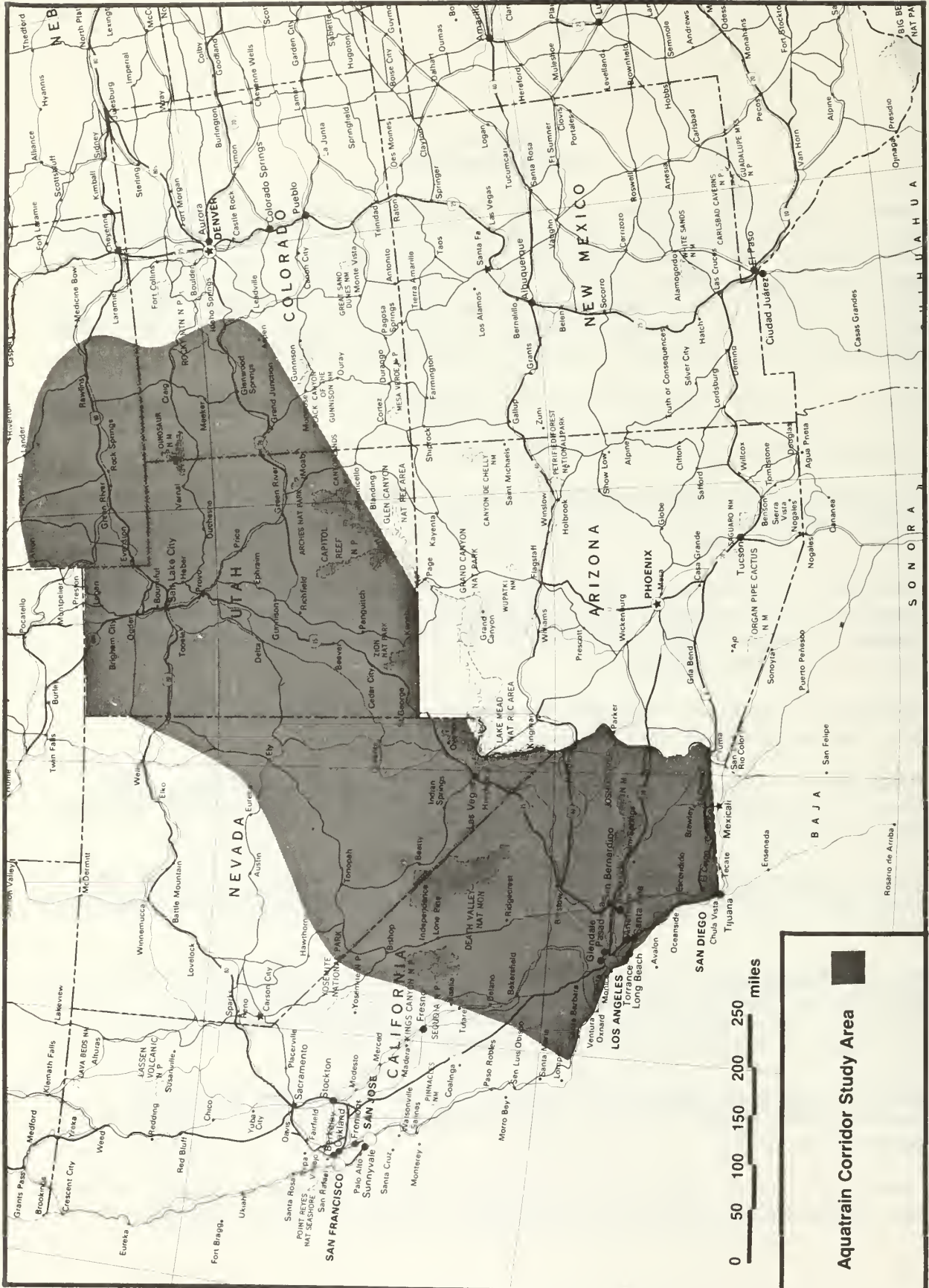
1. Location--where corridors and routes pass within an affected state.
2. Description--the identification of any environmental assessment work (EISs, management plans) for the corridors. Each corridor or route was classed as Category 1, 2, or 3, according to the following definitions:

Category 1--includes (a) corridors or routes and rights-of-way that have been addressed in compliance with the National Environmental Policy Act (NEPA) or (b) corridors that have been formally designated through the land use planning process.

Category 2--includes ^planned^ or ^potential^ corridors or routes that have had no previous environmental assessment work.

Category 3--includes routes following rights-of-way (pipelines, power lines, and roads) that were developed before the passage of NEPA and have had no previous environmental assessment work.
3. Physical Resources--includes key topographic and geologic features or conditions that would affect and be affected by implementing the AQUATRAN Project.
4. Natural Resources--includes key natural resources that could be affected by pipeline construction and publicly perceived natural resource concerns. Only those natural resources affected and perceived to be affected are identified for each corridor or route.
5. Land Use Plans and Concerns--includes key land use plans and public concerns that would be involved with pipeline construction along each corridor or route.

As a result of Phase I work, some corridors and routes were eliminated from further consideration and detailed analysis in Phase II of the study.



Map 2-1 AQUATRIN CORRIDOR STUDY AREA

## 2.1 CORRIDORS ELIMINATED FROM ANALYSIS IN PHASE II

The Division of EIS Services' Aquatrain Corridor Study Task Force Team and the Bureau of Reclamation evaluated the corridors and routes identified in Phase I of this study and eliminated from further consideration and detailed analysis, corridors that did not meet project needs. Corridors were eliminated in this study for one or more of the following reasons:

- o being longer than other corridors,
- o not tying into other corridors,
- o going in the wrong direction,
- o passing through an area where pipeline construction would create land use concerns,
- o passing through an area where a construction project is pending litigation, or
- o passing through an area where pipeline construction would cause engineering or environmental problems.

Because a corridor has been recommended for EIS scoping in Phase II does not mean that the corridor is without problems. Rather, such a recommendation means that, on the basis of the study's analysis, the problems or concerns of building a pipeline through a recommended corridor are not unsolvable.

The corridors and routes eliminated in Phase I and reasons for their elimination are shown in Table 2-1.

## 2.2 CORRIDORS IDENTIFIED IN PHASE I

Maps showing the locations of the corridors and routes identified in Phase I of the study are not included in this report. Copies of these maps may be obtained from the Project Manager, Saline Water Transport and Use Office, Bureau of Reclamation (ERC-190), P.O. Box 25007, Denver, Colorado 80225.

### 2.2.1 Wyoming Corridors

#### General Description

Seven corridors were examined in Wyoming. Four of these follow rights-of-way in a north-south trend from the Jim Bridger power plant, 45 miles east of Rock Springs, Wyoming, to the coal source in the Axial Basin of Colorado. The fifth corridor, following no existing rights-of-way, trends west to east and could be used to carry saline water from the Big Sandy irrigation area to the Jim Bridger power plant. The sixth corridor examined trends northwest to southeast, following a natural gas pipeline right-of-way and allowing the transport of carbon dioxide gas to the Axial Basin coal source in Colorado. The seventh corridor heads west from Sage, Wyoming, following the Rocky Mountain Pipeline Project (RMPP), BLM-Preferred Alternative.

The natural and physical characteristics of the Wyoming corridors are summarized in the following discussions.

TABLE 2-1  
CORRIDORS ELIMINATED FROM ANALYSIS IN PHASE II

Corridor	Reason for Elimination
<u>WYOMING</u>	
Chevron Phosphate Project, Proposed Action	Fails to meet project needs for a direct corridor from the Jim Bridger power plant to the Axial Basin coal source.
Chevron Phosphate Project, Mapco Alternative	Same as the Chevron Phosphate Project, Proposed Action.
State Highway 789 between Interstate Highway 80 and Dad cutoff	Adds unneeded length to the pipeline.
<u>COLORADO</u>	
Juniper Hot Springs Corridor	Pipeline would conflict with proposed Juniper-Cross Mountain Dam and Reservoir, which if built, would require relocation of pipeline and ancillary facilities.
Plateau Creek Corridor	Passes through a narrow, steep canyon, where pipeline construction and environmental mitigation costs would be excessive.
Rapid Creek Corridor	Same as for Plateau Creek Corridor. This corridor also crosses Rapid Creek watershed, a water source for the town of Palisade, Colorado.
<u>UTAH</u>	
Hunter power plant water collection pipeline from Mounds to the San Rafael River	Fails to meet project need to connect with other corridors.
Intermountain Power Project (IPP), proposed transmission line from east of Emery to southeast of Latimer	Fails to meet project need to connect with other corridors.

TABLE 2-1 (Con't)  
CORRIDORS ELIMINATED FROM ANALYSIS IN PHASE II

Corridor	Reason for Elimination
<u>Utah (Con't)</u>	
IPP railroad line corridor to Factory Butte	Fails to meet project need to connect with other corridors.
Allen-Warner Valley coal slurry and transmission line routes	Extreme environmental problems from terrain constraints and mountain peaks.
Proposed Rocky Mountain Pipeline Project (RMPP), Provo Canyon Alternative	Public hearing opposition in Provo and extreme environmental concerns--narrow canyon and presence of river.
Proposed RMPP, Thistle Creek Variation	Slope instability, mud slides, and reservoir formed by Thistle Slide.
Mountain Fuels gas pipeline from Birds Eye to Uinta National Forest	Fails to meet project need for north-south corridor.
Thistle to Springeville Corridor	Same as the Mountain Fuels gas pipeline.
New Interstate Highway 70 through Clear Creek Canyon, crossing Fishlake National Forest	Adds unneeded length to pipeline.
<u>NEVADA</u>	
A segment of the RMPP, Central Nevada Alternative (east of Ely to west of Currant)	Lack of space in Murry and Currant canyons makes corridor unsuitable for pipeline construction.
Sierra Pacific 230kV and 69kV power transmission line corridor--IPP's proposed route crossing Humboldt National Forest (Ely Ranger District) north and east of Ely.	Terrain constraints make corridor unsuitable for pipeline construction.

TABLE 2-1 (Con't)  
CORRIDORS ELIMINATED FROM ANALYSIS IN PHASE II

Corridor	Reason for Elimination
<u>Nevada</u> (Con't)	
A segment of the Proposed RMPP, Central Nevada Alternative crossing private land in Toiyabe National Forest east of Tonopah, Nevada.	Private land constraints along U.S. Highway 50.
South of Cathedral Gorge State Park State Highway 25 and the Union Pacific Railroad right-of-way	Runs in the wrong direction (east-west).
State Highway 25 from U.S. Highway 50 to Caliente	Excessively long and fails to meet project need to link corridors.
U.S. Highway 95 from U.S. Highway 50 to west Las Vegas.	Same as for State Highway 25.
IPP Corridor from the main substation to Moapa	Crosses the Meadow Valley Range and Morman Mountain Wilderness Study Areas (WSAs). Tight, restricted canyons and mountain peaks along corridor make the area unsuitable for pipeline construction.
Interstate Highway 15 from the intersection with the Allen-Warner Valley Corridor to Mesquite	Environmental sensitivity and public concern over utilities through the Virgin River Canyon.
<u>CALIFORNIA</u>	
California Desert Conservation Area (CDCA) Corridor M	Port of San Diego was eliminated as a coal export facility, making this corridor unneeded.
CDCA Corridors N, L, and CC	Same as for CDCA Corridor M.
CDCA Contingent Corridors T and Z	Same as for CDCA Corridor M.
Western Regional Corridor Study from San Diego to CDCA Corridor N	Same as for CDCA Corridor M.
Interstate Highway 8	Same as for CDCA Corridor M.

TABLE 2-1 (Concluded)  
CORRIDORS ELIMINATED FROM ANALYSIS IN PHASE II

Corridor	Reason for Elimination
<u>California (Con't)</u>	
Allen-Warner Valley Corridor along Interstate Highway 40 to Piute Valley	Lies outside a CDCA designated energy and utility corridor.
CDCA Contingent Corridor R	Lies outside a CDCA designated energy and utility corridor.
CDCA Contingent Corridor W	Lies outside a CDCA designated energy and utility corridor.
IPP and Allen-Warner Valley corridors south of Ivanpah Valley to Rector, California	Same as CDCA Contingent Corridor W.

## Physical Resources

The topography along the corridors consists of rolling prairie with little change in elevation, except near Point of Rocks (elevation 6,700 feet). In virtually all the Wyoming corridors, bedrock would be encountered during trenching. Because of the lack of moisture and vegetation, the bedrock has decomposed so slowly that significant depths of overburden occur only in stream channels. Most of the bedrock that would be crossed in this area, however, is soft enough so that blasting would not be needed.

## Natural Resources

Wildlife. Wildlife species inhabiting the area crossed by the Wyoming corridors include those common to western sagebrush and shrub habitat. Though most of the corridors have not been surveyed for raptors, raptor habitat occurs in all the corridors. At least one federally listed endangered species--the black-footed ferret--may occur along the corridors in conjunction with whitetail prairie dog towns. Further information on occurrence of endangered plants or animals along the corridors and compliance with Section 7 of the Endangered Species Act of 1973, as amended, will have to await final determination of corridors to be studied in the EIS.

Soils. The soils in southwest Wyoming are mainly well drained, weakly developed, and loamy, forming in calcareous materials weathered from interbedded sandstone and shale. These soils occur mainly on the low hills, ridges, and basins of the area crossed by the corridors. More than half of the soils in this area have bedrock within 60 inches of the surface.

Cultural Resources. The past life of the inhabitants of western Wyoming is evident throughout this study area. Indian seasonal camps are often found in the passes and by the playas, streams, springs, and dunes of the basins. Major village sites, however, are rare because the hunting and gathering lifestyle produced small roving bands that left small, widely scattered concentrations of material. Pony express and stage trails occur in the area, along with the Oregon, South Pass, and Overland trails. Cultural resource surveys would have to be completed before any pipeline construction is authorized.

Visual Resources. Visual resources along this corridor would not be adversely affected by building pipelines.

## Land Use Plans and Concerns

No known land use plan conflicts or concerns would result from building pipelines along the Wyoming corridors.



### **Big Bend Saline Water Corridor**

This corridor starts in the Big Bend area of the Big Sandy River and heads southeast to the Jim Bridger power plant. Since none of this corridor has been environmentally assessed as part of any designated or planned corridor, this corridor is classed as Category 2. This corridor crosses moderate- to high-value coal areas, but since it is 10 miles wide, a pipeline could be placed to avoid coal areas. This corridor crosses the Bryan-South Pass City Stage Road.

### **Interstate 80-Dad Cutoff Corridor**

This corridor heads south from the Jim Bridger power plant to Interstate Highway 80 near Point of Rocks, where it turns east and follows the Trailblazer pipeline route to Wamsutter, Wyoming. The corridor then turns south and follows the Dad Cutoff Road to Wyoming State Highway 789 and continues south along this highway to the Wyoming-Colorado state line.

The corridor segment that follows the Trailblazer pipeline (from mileposts 186 to 235 on the Colorado Interstate Gas (CIG) pipeline segment) has been environmentally assessed in the Trailblazer Pipeline System EIS, 1980, and is thus classed as Category 1. The Dad Cutoff and State Highway 789 portions of this corridor have been partially addressed in the Overland Resource Area Management Framework Plan, 1977 (Rawlins District, BLM, Rawlins, Wyoming), and they are classed as Category 2.

This corridor crosses the Overland Trail south of Wamsutter.

### **Interstate 80-Highway 430 Corridor**

This corridor heads south from the Jim Bridger power plant to Interstate 80 near Point of Rocks, where it turns west and follows the Trailblazer pipeline route to south of Rock Springs, Wyoming. The corridor then turns south and follows Wyoming State Highway 430 to the Wyoming-Colorado state line.

The corridor segment that follows the Trailblazer pipeline (from about mileposts 323 to 261 on the CIG segment) has been environmentally assessed in the Trailblazer Pipeline System EIS, 1980, and is classed as Category 1. Wyoming State Highway 430 has been designated as a utility corridor, but no environmental assessments have been made for it. The corridor segment along State Highway 430 is thus classed as Category 2.

### **Shell Creek Corridor**

The Shell Creek Corridor heads south from the Jim Bridger power plant to join the Trailblazer pipeline near Point of Rocks, Wyoming. It then heads east along the Trailblazer right-of-way to the unnumbered county road that goes under Interstate Highway 80 to Bitter Creek. The corridor continues south along this county road to the Powder Wash Corridor in Colorado.

The only environmental assessment completed for this corridor was for the Trailblazer right-of-way in the Trailblazer Pipeline System EIS, 1980. No assessments have been made for its remainder. This corridor is thus classed as Category 1 for its first 11 miles and Category 3 for its remainder.

This corridor crosses the Overland Trail south of Black Butte.

#### Hallville-Black Buttes-Kinney Rim Corridor

This corridor heads south from the Jim Bridger power plant, crossing Interstate Highway 80 near Point of Rocks, Wyoming. At Interstate 80, the corridor joins an unnumbered county road following Bitter Creek and continues south through Hallville and Black Buttes. Just south of Black Buttes, the corridor turns with the county road to the southwest and continues southwest and south to a road fork at Alkali Wash. The corridor then takes the east fork and turns south along Kinney Rim, following the road off the rim and along Alkali Creek to the Wyoming-Colorado border. This corridor follows no designated corridors, and no environmental assessments have been made for it; it is thus classed as Category 3. This corridor crosses the Overland Trail south of Bitter Creek.

#### Black Buttes-Alkali Wash-430 Corridor

This corridor heads south from the Jim Bridger power plant through Hallville, Black Buttes, and Kinney Rim to the road junction at Alkali Wash. At this junction, the corridor turns southwest to its junction with Wyoming State Highway 430 and follows this highway south to the Wyoming-Colorado state line. BLM's Rock Springs District has designated State Highway 430 as a utility corridor, but no environmental assessments have been made. This corridor segment is thus classed as Category 2. No environmental assessments have been made along the county roads that this corridor follows, and the rest of the corridor is classed as Category 3.

#### Riley Ridge CO<sub>2</sub> Corridor

This corridor starts at the American Quasar and Exxon CO<sub>2</sub> pipeline tie-in point southwest of Rock Springs. (This tie-in point is further described in BLM's Riley Ridge Natural Gas Project Final EIS, 1983.) From this tie-in, the corridor follows south and east along the Mountain Fuels Supply natural gas pipeline right-of-way to its intersection with Wyoming State Highway 430, near Vermillion Creek. At this point, the corridor takes one of two routes:

- (1) Follows the proposed Black Buttes-Alkali Wash-430 Corridor.
- (2) Continues along the Mountain Fuels Supply right-of-way to its intersection with the Hallville-Black Buttes-Kinney Rim Corridor.

The corridor segment following the Mountain Fuels Supply natural gas pipeline right-of-way is classed as Category 3, and the remainder of the corridor is classed as Category 2.

This corridor crosses the Cherokee Trail.

## Rocky Mountain Pipeline Project Corridor

The portion of this corridor in Wyoming is discussed under Utah Corridors, West Salt Lake Alternative Corridor and Rocky Mountain Pipeline Project (RMPP) Corridor.

### 2.2.2 Colorado Corridors

#### General Description

Two sets of corridors were identified in Colorado. One set follows a north-south trend from the Colorado-Wyoming state line to Rifle, Colorado. The second set crosses Colorado east to west from the Glenwood-Dotsero Springs saline water sources near Gypsum, through Rifle, and on to where Interstate Highway 70 enters Utah from Colorado. No previous EIS assessments have been made for the north-south corridors, but EIS documentation exists on the east-west corridors, especially along Interstate 70.

At least one federally listed endangered species--the black-footed ferret--may be found along the corridors in conjunction with whitetail prairie dog towns. Further information on threatened and endangered species along the corridors and compliance with Section 7 of the Endangered Species Act of 1973, as amended, will have to await final determination of corridors to be studied in the AQUATRAN Project EIS.

Following are the descriptions of the corridors inventoried for the Colorado portion of the Corridor Study.

#### Irish Canyon Corridor

##### Location and Description

From the Colorado-Wyoming state line this corridor follows Moffat County Road 139 through Irish Canyon to its intersection with Colorado State Highway 318. The corridor then heads southeast along Highway 318 to its junction with U.S. Highway 40, where it turns east and follows Highway 40 to just east of Maybell. From here, the corridor turns south and follows an unnumbered Moffat County road to the first intersection (5 miles). From this intersection, the corridor turns southeast and follows another unnumbered Moffat County road to Axial.

The entire corridor follows existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through land use planning. This corridor is thus classed as Category 3.

## Physical Resources

The topography along this corridor varies from nearly level valley floors and narrow canyons to rolling hills. Irish Canyon itself is a narrow, steep-sided canyon about 3.5 miles long. Once the corridor leaves the canyon, it follows State Highway 318 through low hills and rolling terrain to the Yampa River near Maybell. From Maybell south to Axial, the corridor passes through broad valleys and low rolling hills on the north side of the Danforth Hills.

## Natural Resources

Soils. The soils along this corridor are deep, well drained, loamy soils containing varying amounts (35 to 60 percent) of rock fragments that range in size from gravel to stone. These soils are on narrow, elongated floodplains, with slopes of 3 to 10 percent, bordered by steep to very steep sideslopes subject to rock falls. Soils from Maybell to Axial are deep, well drained, nearly level to moderately steep soils on mesas, terraces, and uplands.

Vegetation. The first 12 miles of this corridor south of the state line crosses sagebrush-grass range. Plants in Irish Canyon are typical of the pinyon-juniper type. From the southern end of Irish Canyon to Maybell, the corridor goes through an area of dry, sandy, rolling sagebrush-covered hills. From Maybell to Axial, the corridor crosses broad valleys of low, rolling hills covered with sagebrush and mountain browse.

Visual Resources. With the exception of Irish Canyon, most of this corridor crosses dry, rolling sagebrush-dominated landscapes. Few tourists visit this area for its scenery.

Cultural Resources. Irish Canyon has several known archaeological sites, including rock art, rock shelters, and other evidences of early cultures. Although no intensive inventories have been made in this area, many potentially sensitive cultural resources are likely to occur as evidence of Paleo-Indian occupation. The rest of the corridor crosses areas occupied for the past 10,000 years but where evidence of occupation is scattered.

Agriculture/Grazing. Most of the lands crossed by this corridor are used for livestock grazing. One area south of Maybell is used for growing crops, mostly non-irrigated wheat.

## Land Use Plans and Concerns

No up-to-date BLM management framework plans exist for the area crossed by this corridor, although a new resource management plan is scheduled to be written soon. No land use constraints are known for any portion of this corridor, except for Irish Canyon. Irish Canyon should be avoided, if possible, because of local political and environmental concerns.

## Powder Wash-Little Snake Corridor

### Location and Description

From the Colorado-Wyoming state line this corridor follows Moffat County Road 13 through Powder Wash to Little Snake River Road (Moffat County Road 27). At this point, the corridor turns southwest on Moffat County Road 27 and follows this road to its intersection with Colorado State Highway 318. The corridor then crosses State Highway 318 and continues southwest along the Little Snake River to its confluence with the Yampa River. The corridor crosses the Yampa River, follows Moffat County Road 26 to its junction with Moffat County Road 57 (Price Creek/Strawberry Road), and continues along Rio Blanco County Road 12 to its junction with State Highway 64, west of Meeker.

This entire corridor follows existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through land use planning. This corridor is thus classed as Category 3. The building of the proposed Juniper-Cross Mountain Dam would not affect a pipeline built along this corridor.

### Physical Resources

The topography along the upper portions of this corridor from the Colorado-Wyoming state line to near Cross Mountain consists mostly of rolling hills. Near Cross Mountain, the corridor drops into a steep and narrow canyon for 6 miles before crossing the Yampa River and more rolling hills. The corridor segment from the coal source near Axial, west to Moffat County Road 57 crosses a narrow valley through low, rolling hills.

### Natural Resources

Soils. Soils along this corridor are mostly deep, well drained, level to sloping, to steep on mesas, fans, floodplains, and uplands. No apparent slope stability problems occur along any portion of the corridor, but a small area of rocky soils occurs along the west side of Cross Mountain.

Vegetation. Vegetation types and typical species found along this corridor are the same as those found along the Irish Canyon Corridor.

Visual Resources. An area of high visual concern exists near Cross Mountain Wilderness Study Area (WSA). This WSA encompasses an oblong, flat-topped mesa rising nearly 2,000 feet above the Yampa River. The river has cut a deep gorge, which is a focal point in the area. Erosion has worked on the mountain's east and west sides, exposing colorful, rocky rims. The northeast side of Cross Mountain consists of an abrupt, exposed face. Patches of aspen and mountain browse are scattered around the area, especially on the eastern face. The rest of the area is dominated by pinyon-juniper. Because of its varied and rugged topography, many vantage points, varied vegetation, and location, Cross Mountain WSA offers outstanding opportunities for solitude.

Cultural Resources. Although most of the corridor has not been surveyed for cultural resources, several archaeological sites have been found. Many chips and other artifacts have been discovered, revealing that the Cross Mountain area was once inhabited by the Fremont Indian culture. Several caves have also been found, but more research is needed.

Agriculture/Grazing. Virtually all of the corridor passes through lands used mainly for livestock grazing.

### Land Use Plans and Concerns

The only apparent concern in building the Aquatrain pipeline along this corridor is Cross Mountain WSA and the legal constraints relating to how this corridor would affect wilderness characteristics.

### **Bald Mountain Cutoff Corridor**

#### Location and Description

From the intersection of Moffat County Roads 27 and 28, this corridor follows southeast along Moffat County Road 28 to the town of Maybell, Colorado, where it joins the Irish Canyon Corridor. This entire corridor follows existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through land use planning. This corridor is thus classed as Category 3.

#### Physical Resources

The topography along this corridor consists of a flat to rolling landscape with some higher mesa-type hills.

#### Natural Resources

Soils. Major soil problems could occur along the Spring Creek drainage system where the silty soils contain large amounts of salt. This combination of silt and salt causes piping (sub-surface erosion), which would cause serious maintenance problems for any pipeline crossing the drainage. This soil problem in the Spring Creek drainage is addressed in the LaSal Pipeline Company Shale Oil Pipeline Draft EIS, 1981.

Vegetation. The main plant species along this corridor are the same as those discussed for the Powder Wash-Little Snake Corridor.

Cultural Resources. A search of the cultural resource literature for northwest Colorado found the area to have been occupied for at least the past 10,000 years. The search also found the existence of a variety of prehistoric sites, primarily representing Archaic and Late Prehistoric Indian cultures.

Agriculture/Grazing. This corridor crosses lands that are almost exclusively used for cattle and sheep grazing. The area is also good wildlife habitat.

## Highway 789 Corridor

### Location and Description

From the Colorado-Wyoming state line this corridor follows Colorado State Highway 789 south to Axial. The entire corridor follows existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. This corridor is thus classed as Category 3.

### Physical Resources

The topography along this corridor from the Colorado-Wyoming state line to a point 6 miles south of Craig is one of rolling hills. South of Craig, the corridor enters the Williams Fork River Canyon, a steep, dissected gorge that for 4 miles has a highway and river occupying most of its narrow width. The walls are nearly vertical along the east side of the canyon. At Hamilton the corridor leaves the canyon and climbs a 6 to 7 percent grade to the base of nearly vertical rock walls. Once the corridor reaches the top, 2 miles south of Hamilton, it generally follows a level valley floor to Axial.

### Natural Resources

Vegetation. The only apparent concern along this corridor is the Williams Fork River Canyon, where pipeline construction would destroy riparian vegetation.

Agriculture/Grazing. Lands that would be crossed by this corridor are used mainly for livestock grazing or dryland wheat farming.

## Yellow Jacket-Highway 789 Corridor

### Location and Description

Starting at the Axial Basin coal source, this corridor heads east along Moffat County Road 51, crosses State Highway 789, and heads southeast until it intersects an unnumbered Moffat County road (Yellow Jacket Pass Road). From this point, the corridor parallels Rio Blanco County Road 10 to its intersection with State Highway 789, 3 miles north of Meeker. This entire corridor follows existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through land use planning. This corridor is thus classed as Category 3.

### Physical Resources

The topography along the first 8 miles of the corridor consists of low, rolling hills. Beyond that, the corridor enters somewhat steeper areas.

## Natural Resources

Wildlife. Big game use most of the area for winter range, attracting heavy hunter use in the fall.

Vegetation. Vegetation along this corridor includes species common to the Northern Desert Shrub and Transition Zones. These vegetation types are used mostly for wildlife habitat and livestock grazing.

Cultural Resources. The area along this corridor has a variety of prehistoric sites, mainly representing Archaic and Late Prehistoric Indian cultures. In addition, at least one site--the Thornberg Battle Site, 20 miles northeast of Meeker--is listed on the National Register of Historic Places.

Agriculture/Grazing. Most of this corridor passes through areas used almost entirely for livestock grazing from spring to fall. Some farming also occurs. Crops include winter wheat, alfalfa, and some small grain. Irrigated pastures also occur.

## **Nine-Mile Corridor**

### Location and Description

This corridor follows Colorado State Highway 789 from Axial to Meeker, along existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through land use planning. This corridor is thus classed as Category 3.

### Physical Resources

This corridor entirely follows the bottom of a narrow canyon formed by Good Spring Creek. Virtually all of the undeveloped canyon bottom consists of a boggy riparian area with free-running surface water year round. In addition, several areas along the west side of the canyon have severe slumping problems with hillside soils, particularly along a 2-mile segment of the corridor near the top of Nine-Mile Gap.

### Natural Resources

Soils. Soils along this corridor south of Axial are deep to moderately deep, well drained, gently sloping to moderately steep soils on uplands and valleys. At the Moffat County-Rio Blanco County line, the soils are poorly drained along Good Spring Creek until the creek approaches Nine-Mile Gap. Soils along Curtis Creek are mostly well drained, gently sloping, and shallow to moderately deep.

Water Resources. Much of the area has free-running surface water year round, and marshy areas are common.

Wildlife. High-quality wildlife habitat occurs in the riparian zones along this corridor.



Cultural Resources. Archaeological investigations near this corridor have found a variety of prehistoric sites, mainly representing Archaic and Late Prehistoric Indian cultures.

Agriculture/Grazing. Livestock grazing constitutes the main land use in this area. Some hay is grown, and the area has a few irrigated pastures.

## Strawberry Creek-Highway 789 Corridor

### Location and Description

From the intersection of two unnumbered Moffat County roads, this corridor follows Rio Blanco County Road 12 (Strawberry Creek Road) to its intersection with Colorado State Highway 64 and continues south along State Highway 789 to Rifle, Colorado.

This entire corridor follows existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through land use planning. This corridor is thus classed as Category 3.

### Physical Resources

The topography along this corridor consists mostly of low, rolling hills.

### Natural Resources

Soils. The soils along this corridor are mainly well drained and loamy on moderately sloping to steep slopes, including areas containing stones and gravel. Soils on the stream terraces and alluvial fans are generally deep with some clayey and silty textures. Large portions of the corridor cross mountainsides, ridges, mesas, and broken land that have shallow to deep stoney soils on moderately steep to very steep slopes. Rock outcrops are common.

Wildlife. The corridor crosses some major big-game east-west migratory routes, mainly for spring and fall movements.

Visual Resources. The area between Meeker and Rifle is dominated by the western escarpment of the Grand Hogback. Although scenic in scale and natural variety, this landscape has been visually modified through the development of several overhead transmission lines, which reduce the quality of the scenery along State Highway 789.

Cultural Resources. Cultural features along this corridor are the same as those in the Yellow Jacket-Highway 789 Corridor description.

Agriculture/Grazing. The main land use along this corridor is livestock grazing, but dryland and irrigated farming also occur.

## **Meeker to Rifle Corridor**

### Location and Description

This corridor starts at Meeker and parallels Colorado State Highway 789 to Rifle. This entire corridor follows existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through land use planning. This corridor is thus classed as Category 3.

### Physical Resources

The topography along this corridor consists of rolling hills. The lands east of State Highway 789 are narrow to the toe of the Grand Hogback slope.

### Natural Resources

The natural resources of concern for this corridor are the same as those discussed for the Strawberry Creek-Highway 789 Corridor.

## **Flag Creek Corridor**

### Location and Description

This corridor starts at Meeker and heads south along Flag Creek Road (Rio Blanco County Roads 6 and 1) to the Rio Blanco cutoff, where it turns west to join Colorado State Highway 789. From Rio Blanco, the corridor turns south and parallels Highway 789 to Rifle. The entire corridor follows existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through land use planning. This corridor is thus classed as Category 3.

### Physical Resources

Between Flag Creek Road and Rio Blanco the corridor passes through a narrow canyon.

### Natural Resources

The eastern side of the Grand Hogback offers a variety of terrain, plant, and water features that define a highly scenic landscape. All other natural resources of concern along this corridor are the same as those discussed for the Strawberry Creek-Highway 789 Corridor.

## **Glenwood Canyon Corridor**

### Location and Description

This corridor follows Interstate Highway 70 for 41 miles from the Glenwood-Dotsero Springs area near the Garfield County-Eagle County line, west to Rifle.

The Glenwood Canyon Corridor has been fully assessed in the Project I-70-2(11) Dotsero West Final EIS, 1972, prepared by the U.S. Department of Transportation, Federal Highway Administration and the Colorado Division of Highways. This corridor is also addressed in the Army Corps of Engineers Final Supplemental EIS for the Glenwood Canyon I-70 Project, 1982. This corridor is thus classed as Category 1.

### Physical Resources

This corridor passes through narrow Glenwood Canyon, with nearly vertical walls several hundred feet high. The canyon is crowded with the Colorado River, the Denver and Rio Grande Western Railroad, and U.S. Highway 6 (soon to be Interstate Highway 70) for its entire length from the Garfield County-Eagle County line west to near Canyon Creek.

Portions of Interstate 70 have already been built at both the east and west ends of the canyon. New construction to connect the east and west segments, which will total 9.6 miles, is planned for the mid-1980s.

Pre-Cambrian rocks are exposed in the lower canyon walls between Grizzly Creek and the Hanging Lake area, and sedimentary rocks form the high rims eastward from Hanging Lake. The main formations are Sawatch quartzite, Chaffee and Manitou limestone and dolomite, and Leadville limestone.

Talus slopes, formed at the base of the rock walls due to erosion, are common throughout 75 percent of the canyon's length. The surface of many of these slopes is active and continuously accumulates material from the rock faces above. An unstable clay layer, with an average thickness of 45 feet, lies in the canyon from 10 to 60 feet below the surface. The extent of this layer is undetermined, but it is known to exist east of Shoshone Dam and continue through the east end of the canyon. This layer consists predominantly of clay with varying percentages of silt and sand. It is a source of severe settlement problems.

### Natural Resources

Wildlife. Few big-game animals are seen in Glenwood Canyon. The eastern and western ends of the canyon provide browsing areas for small numbers of deer and elk during the winter and early spring. Other animals in the canyon include small mammals, a variety of nongame birds, and a few reptiles. The river is also a wintering area for bald eagles.

Resident cold-water fish inhabit the Colorado River in the canyon, but the quality of the fishery varies. Areas of good habitat support rainbow and brown trout, mountain whitefish, and nongame species. Mountain whitefish, brown trout, and rainbow trout spawn in Grizzly Creek.

Water Resources. The sediment load in the Colorado River through Glenwood Canyon greatly varies, with brief peak loads (about 2 months) during high spring runoff. Salinity pollution is becoming an increasing problem in the upper Colorado River Basin, although salinity in the canyon is not now at critical levels. Water quality data reveals no serious water quality problems

in the river as it flows through the canyon. Peak flood flows calculated for the Corps of Engineers EIS (1982) under worst-case conditions amounted to 32,500 cubic feet per second.

Vegetation. Low moisture levels, steep slopes, and low soil fertility make revegetation of the canyon walls difficult. Riparian vegetation next to the river varies widely and generally does not constitute a stable plant community. Revegetation of these areas after pipeline construction could take many years.

Visual Resources. The scenic values of Glenwood Canyon are of significant interest both locally and nationally. The natural beauty of the canyon walls and diverse vegetation contrast with the almost continuous change of the canyon flow by human activities (roadway, railroad, dam, and power plant). Also marring the scenery are talus scars, large rock cuts, disturbed vegetation, and barren rock fills in the river.

Cultural Resources. Cultural resources in Glenwood Canyon were inventoried in 1979 and 1980. Three properties were found to be eligible for inclusion in the National Register of Historic Places: (1) the Bair Ranch, (2) the Shoshone power plant complex, and (3) the Denver and Rio Grande Western Railroad from 0.5 mile west of Bair Ranch to a point near the west end of the canyon. The entire canyon has been surveyed for archaeological and paleontological remains but appears to lack these resources.

Recreation. Recreation in the canyon consists mostly of sightseeing, river rafting, and photography. The canyon is also heavily used for hiking, rock climbing, kayaking, picnicking, and fishing. More than 20,000 people visit the Hanging Lake area each summer. Next to the roadway through the canyon are over 60 vehicle pull-offs, which are heavily used in the summer.

Agriculture/Grazing. No prime or unique farmlands lie within the canyon itself, but 21 miles west of Canyon Creek along Interstate Highway 70 the corridor crosses prime farmlands, including several orchards.

### Land Use Plans and Concerns

The town of Glenwood Springs could block the building of a pipeline on both sides of the canyon near the west end. Local zoning laws, land use plans, and homes and businesses could all make it difficult to put a pipeline through this area.

### **Gypsum-Cottonwood Pass Corridor**

#### Location and Description

This alternative to the Glenwood Canyon Corridor follows Interstate Highway 70 east from the Glenwood-Dotsero Springs area to Gypsum. The corridor then heads southwest along Cottonwood Pass Road (Eagle County Road 10-A over Cottonwood Pass to join Garfield County Road 107) and down Cattle Creek to its junction with State Highway 82. The corridor then crosses the Roaring Fork

River and heads north to Interstate 70, where it follows the Glenwood Canyon Corridor west to Rifle. Much of Cottonwood Pass Road parallels or crosses a Rocky Mountain Natural Gas Company gas pipeline.

The Project I-70-2(11), Dotsero West Final EIS, 1972, assessed the Gypsum-Cottonwood Pass Corridor from Gypsum, over the pass, down to the Roaring Fork River, and north along the river to Interstate Highway 70. This corridor is thus classed as Category 1.

### Physical Resources

The topography along this corridor consists of flat, river floodplain for 8 miles to Gypsum. The corridor then heads southwest through a somewhat narrow valley and steeply climbs 2,400 feet to the summit of Cottonwood Pass, a distance of 10 miles. Following Garfield County Road 113 for 17 miles, the corridor drops 2,400 feet in elevation.

### Natural Resources

Soils. Some unstable slopes occur near the summit of Cottonwood Pass, but no major soil problems are expected along this corridor.

Vegetation. From its eastern end at Dotsero Springs, the corridor crosses riparian river bottom and sagebrush/pinyon-juniper vegetation with scattered aspen, mountain browse, and various conifers near the top of the pass. The vegetation pattern is repeated as the corridor continues west down Cattle Creek to the Roaring Fork River.

Agriculture/Grazing. This corridor crosses lands almost exclusively used for cattle and sheep grazing. The area is also excellent wildlife habitat. At both the east and west ends of the corridor are small amounts of farmlands, consisting mainly of native and irrigated pastures and some alfalfa fields.

## **Cottonwood Pass Variation Corridor**

### Location and Description

This corridor variation starts at Dotsero Springs and heads southeast, roughly along Cottonwood Creek to Cottonwood Pass Road. A pipeline using this corridor variation instead of the Gypsum-Cottonwood Pass Corridor would save 9 miles. This corridor variation would require the saline water pipeline to lift water 2,400 feet over a distance of 6 miles. None of this corridor has been environmentally assessed, and it is thus classed as Category 2.

### Physical Resources

This corridor passes through steep hilly terrain and over shaley soils.

## Natural Resources

Except for soils, all natural resource concerns along this short corridor variation are the same as those discussed for the Gypsum-Cottonwood Pass Corridor. Soils along this variation are shallow to deep, well drained, nearly level to moderately steep on foothills and fans, graduating to sloping to steep on benches and mountain slopes. Some of the areas along this variation are heavily dissected, and soil erodes so quickly in some areas that vegetation cannot become established.

### **Rifle-Interstate Highway 70 Corridor**

#### Location and Description

From Rifle this corridor follows Interstate Highway 70 west to the Colorado-Utah state line, a distance of 83 miles.

From the western end of this corridor at the Colorado-Utah state line, Interstate Highway 70 has been completed for 46 miles east to a point 1 mile east of Plateau Creek. A 4-mile segment of Interstate 70 west of Rifle is also completed and is assessed in Interstate 70 planning documents. The entire corridor is classed as Category 1.

A 37-mile-long segment from 4 miles west of Rifle to 1 mile east of Plateau Creek has not been completed to interstate highway specifications, but has been assessed in the Final EIS for Project I-70-1(19) & (36), De Beque-Grand Valley, Mesa and Garfield counties, Colorado, prepared by the U.S. Department of Transportation, Federal Highway Administration and the Colorado Division of Highways, 1975. The Rifle to San Juan 345kV Powerline Draft Supplemental EIS, 1983, also assesses portions of this corridor.

#### Physical Resources

The eastern portion of this corridor from Rifle to De Beque Canyon (34 miles) follows a broad, flat alluvial valley along the Colorado River. De Beque Canyon is a narrow gorge with nearly vertical walls through which pass the Colorado River, the Denver and Rio Grande Western Railroad, and U.S. Highway 6 (soon to be Interstate Highway 70). A dam has been built across the river near Cameo, and Island Acres State Recreation Area lies just upstream from Cameo. The portion of Interstate 70 that passes through Grand Junction is 8 miles long. The area crossed by the corridor west of Grand Junction to the Colorado-Utah state line consists of a broad, flat alluvial valley along the Colorado River.

#### Natural Resources

Wildlife. The farmlands between Clifton and Fruita support huntable populations of ring-necked pheasants and Gambel's quail. In addition, several federally listed endangered species could occur along this corridor, including wintering bald eagles, black-footed ferrets, and several fish species.

Vegetation. Extensive riparian areas run the 12-mile length of De Beque Canyon, and various cactuses and sensitive plant species could occur along this corridor.

Visual Resources. Visual contrasts are the most striking features of scenery along Interstate 70. The sheer Book Cliffs, just north of the corridor from Rifle to the Colorado-Utah state line, are a spectacular formation easily seen from the corridor. The stark, flat desert from Interstate 70 to the base of the Book Cliffs forms an interesting visual contrast with the cliffs. South of the corridor from Rifle to De Beque Canyon, Grand Mesa forms a dark green contrast with the desert. De Beque Canyon itself is a highly scenic narrow and steep-sided gorge.

Cultural Resources. A variety of prehistoric sites occur along the corridor, mainly representing Archaic and Late Prehistoric Indian cultures.

Agriculture/Grazing. All of the lands crossed by this corridor are used for livestock grazing (mainly in the winter) except for the De Beque Canyon area and the intensive agricultural area between Palisade and Mack. The area around Palisade and Clifton is occupied by orchards, whereas areas west of Grand Junction are mainly used for growing alfalfa, corn, small grains, and other irrigated crops.

## **Rifle-Collbran Corridor**

### Location and Description

This corridor is an alternative to the Rifle-Interstate Highway 70 Corridor through De Beque Canyon. The Rifle-Collbran Corridor starts at Rifle and heads south along Middle Mamm Creek Road to the East Mamm Creek Road (Garfield County Road 330). The corridor then heads up Dry Hollow Creek, crosses to the west near the head of Reservoir Gulch, and connects with Peninsula Road to Collbran (Mesa County Road 82). From Collbran, the corridor follows Mesa County Road 330 to its junction with State Highway 65 and heads south along Highway 65 to near the head of Big Beaver Creek. The corridor then turns southwest to Whitewater Creek, heads down Whitewater Creek to the town of Whitewater, and turns northwest along U.S. Highway 6 to join Interstate 70, west of Grand Junction.

This entire corridor follows existing road rights-of-way, most of which have not had EIS work or have not been designated as utility corridors through land use planning. Portions of this corridor have been assessed in the Rifle-San Juan 345kV Transmission Line Draft Supplementary EIS, 1981, and are classed as Category 1. The rest of the corridor is classed as Category 3.

### Physical Resources

This corridor follows existing road rights-of-way along broad valleys and creek bottoms and encounters steeper hills at the head of Mamm Creek. Continuing west down the Peninsula Road, the corridor crosses level lands to the town of Mesa. From Mesa to the head of Whitewater Creek the corridor climbs through steeper, north-facing slopes of Grand Mesa. The corridor then drops down Whitewater Creek and passes through steeper, dry, eroded slopes to Grand Junction, where it crosses urban areas until joining Interstate 70. The

corridor climbs 1,300 feet from Rifle to the divide between Mamm Creek and Buzzard, drops 1,300 feet to Mesa, climbs 3,200 feet to the head of Whitewater Creek, and then drops 5,000 feet to Grand Junction.

### Natural Resources

Soils. This corridor crosses shallow to deep, well-drained soils on nearly level to steeply sloping benches, fans, mesas, terraces, and mountain slopes. Some areas of unstable slopes lie along the corridor near the head of Whitewater Creek south of Rapid Creek Reservoir No. 2.

Wildlife. Some federally listed threatened or endangered animals could occur along this corridor, including wintering bald eagles and some fish species. This corridor also crosses big-game migration routes.

Visual Resources. The visual characteristics of this corridor include broad valleys of low, rolling sagebrush-covered hills, slopes of pinyon-juniper, heavily vegetated mountain browse slopes, areas of dense conifers and interspersed aspen groves, and steep rocky slopes grading into dry desert shrub areas. Much of the area crossed by this corridor can be seen for many miles from Interstate Highway 70. In addition, many tourists can view the corridor while visiting Grand Mesa.

Agriculture/Grazing. Most of the lands along this corridor are used for livestock grazing. In addition, some agricultural lands near Collbran and south of Rifle include dryland pastures, native grass pastures, and irrigated pastures.

### Land Use Plans and Concerns

A draft forest land and resource management plan for Grand Mesa National Forest has been released for comment. A small portion of the Rifle-Collbran Corridor crosses Grand Mesa National Forest, but land use decisions in the pipeline area appear not to preclude construction. Most of the corridor would cross private land.

### De Beque-Salt Wash Corridor

#### Location and Description

This variation to the Rifle-Interstate Highway 70 Corridor starts at De Beque, heads northwest up the Dry Fork of Roan Creek, and then turns up the South Dry Fork of Roan Creek (Garfield County Roads 109, 200, and 232). This corridor continues west up the McKay Fork, crosses over the top, and continues west down Coal Gulch to Big Salt Wash. Once in the Big Salt Wash area, the corridor heads south and west (on Mesa County Road 116), crossing Colorado State Highway 139 just north of Highline Lake State Recreation Area. From this point, the corridor takes one of two directions: (1) after crossing Highway 139, it heads north and west around the state recreation area and



heads southwest down East Salt Creek to Interstate 70; or (2) after crossing state Highway 139, it continues west, staying north of the Highline Canal to near West Salt Creek, where it turns south to join Interstate 70 near McDonald Creek.

Some portions of this corridor follow existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through the land use planning process. These portions are classed as Category 3. The Gary Pipeline Environmental Assessment, 1983, however, assesses much of the area proposed for this corridor, and these portions are classed as Category 1.

This corridor also crosses the South Shale Intensive Inventory Unit; Dorchester's coal lease; the Highline Canal; and property on Mesa County Road 16 owned by Chevron and proposed for an oil shale upgrade facility, utility corridor, and reservoir.

### Physical Resources

This corridor follows existing road rights-of-way along creek bottoms until it reaches steeper, dry, rocky areas, where it follows natural gas pipeline rights-of-way. From De Beque to near the top of Horse Mountain (19 miles), the corridor climbs 2,600 feet. Heading down Coal Gulch to Big Salt Wash, the corridor passes through a narrow, steep gulch that drops 2,500 feet over 10 miles. The corridor then follows a broad, flat alluvial valley to Interstate 70.

### Natural Resources

Vegetation. Some riparian vegetation grows in the Roan Creek drainage and in Big Salt Wash.

Wildlife. The area along Coal Gulch south to Highway 50 is potential black-footed ferret habitat.

Agriculture/Grazing. Lands crossed by this corridor are used mainly for livestock grazing. Agricultural lands along Roan Creek consist of alfalfa fields and irrigated and dryland pastures.

## 2.2.3 Utah Corridors

### **General Description**

Two sets of corridors were examined in Utah. One set heads from the intersection of Interstate Highway 70 and the Utah-Colorado border to a point almost due west across Utah where U.S. Highway 6 enters Nevada. The second set heads southwest from extreme southwest Wyoming to extreme southwest Utah and then enters either Nevada or Arizona. The first set of corridors would be used to carry resources westward across Utah, connecting points in Colorado and Nevada as well as connecting with resource pickup and discharge points in

Utah. The second set of corridors would be used to carry products directly from resource pickup points in southwest Wyoming to markets in southern Nevada and southern California.

East-west pipelines crossing central Utah would be hampered by a series of north-south trending mountain ranges. Pipeline design and construction would either have to allow for crossing steep, rugged terrain, or the pipeline would have to follow the often restricted canyons, which serve as interconnections between the valley areas. In addition, most of the existing or potential corridors within the area are suitable only for electrical transmission lines. Many times the physical attributes that make a corridor suitable for transmission lines would hamper pipeline placement. For example, transmission line towers are often placed on high prominences in rugged terrain to avoid extensive clearing. Placing a pipeline in similar terrain would be extremely difficult.

The north-south trending corridors mainly follow the corridors proposed for the Rocky Mountain Pipeline Project (RMPP). The RMPP has not been approved by the Federal Energy Regulatory Commission or by the Secretary of the Interior, and no project design has been formally submitted for review or approval. Although many of the corridors for the project would cross the more open landscape of western Utah, a pipeline crossing the Wasatch Front would require careful location and design.

## **Grand Resource Area Corridor**

### Location and Description

This 65-mile-long corridor follows Interstate Highway 70 from the Utah-Colorado border west to Green River. The corridor is proposed as a utility corridor in the final Grand Resource Area Management Plan and EIS, 1983, and is classed as Category 1. The corridor is now occupied by Interstate Highway 70, the Denver and Rio Grande Western Railroad, a portion of the Colorado River, a 46kV distribution line, and a 50-mile-long portion of the MAPCO natural gas pipeline.

### Physical Resources

The corridor follows a flat to gently rolling landscape with many intermittent and perennial streams and open vegetation.

### Natural Resources

The following natural resource issues are considered in the Grand Resource Area Management Plan.

Watershed. Watershed issues include critical erosion areas; a flood-prone area; seven major washes that are often sources of flood and sediment damage; and saline-alkali soils that, if disturbed, could contribute toward lowering water quality.

Wildlife. Wildlife issues along this corridor include the presence of pronghorn antelope and mule deer. Threatened or endangered animal species include bald eagles along the Green and Colorado rivers and peregrine falcons along the Colorado River. Unconfirmed black-footed ferret sightings have been reported in the area, and the Colorado squawfish, humpback chub, razorback sucker, and bonytail chub inhabit the Colorado and Green rivers.

Recreation. Recreation issues include an off-road vehicle use area along Interstate 70 east of Green River. In addition, river recreation is popular on the Colorado River, and Westwater Canyon provides some of the most challenging whitewater on the Colorado. Several recreation sites also lie along the river.

Minerals. Along this corridor are both potential and producing oil and gas areas north of Interstate 70 and saleable sand and gravel and humates areas along the interstate.

Cultural Resources. Remains of the prehistoric Anasazi and Fremont Indian cultures have been discovered along this corridor, and historic sites also exist.

Visual Resources. The corridor along the Colorado River is of high visual sensitivity, as are portions of the landscape along Interstate 70.

## San Rafael Swell Corridor

### Location and Description

This 65-mile-long corridor follows Interstate Highway 70 from Green River westward to the interstate's junction with State Highway 10. This corridor is not proposed as a utility corridor in BLM's San Rafael Management Framework Plan (MFP). The San Rafael Swell Corridor is thus classed as Category 3.

### Physical Resources

The landscape along this corridor ranges from flat to gently rolling to rugged with pinnacles and cliffs marking the edges of the San Rafael Swell. The portion of the interstate that passes through the swell crosses several deeply incised canyons and lies within large man-made cuts. From Green River the corridor crosses the San Rafael Valley, the San Rafael River, the more defined San Rafael Reef, and the highly scenic San Rafael Swell. The corridor then descends the Coal Cliffs before ending at its junction with State Highway 10.

### Natural Resources

Visual Resources. Few natural resource needs are better defined than the need to maintain the high, unobstructed and unaltered exceptional scenic quality of the region, which offers unlimited views to the highway traveler and spectacular vistas from many recreation sites and highway turnouts.

Wilderness. Four wilderness study areas (WSAs) lie within this corridor. Sids Mountain and Mexican Mountain WSAs lie to the north of the interstate, and Muddy Creek and San Rafael Reef WSAs lie to the south.

Minerals. At its western end, the corridor crosses portions of the Emery coal field, where subsidence could occur.

### Land Use Plans and Concerns

The corridor lies within the area covered by BLM's San Rafael MFP, which designates a scenic corridor along Interstate 70 between the junctions of State Highways 24 and 10. The designation bans development (including mineral exploration and surface occupancy), except for possibly within the highway right-of-way. Public sentiment strongly supports this policy to protect the area's outstanding scenery.

### **Green River-Castle Dale-Huntington Corridor**

#### Location and Description

The 50-mile-long corridor follows a 345kV transmission line from Green River, passing to the south of Cedar Mountain to the Huntington power plant. (The existing corridor ends at the Four Corners power plant in New Mexico.) Within the corridor are a proposed Green River water line, a transmission line between Green River and the Hunter power plant, and a once-proposed water line between Cedar Mountain and the Hunter power plant. In addition, rural roads and trails and an old railroad grade cross the corridor. Castle Valley shows signs of development such as small communities, rural homes, and small businesses and utilities.

All portions of the corridor were assessed in the Emery Units 3 and 4 EIS, 1976, and the corridor is thus classed as Category 1. In addition, the rights-of-way are addressed in the San Rafael MFP, prepared by BLM's San Rafael Resource Area (Moab District).

#### Physical Resources

The corridor crosses flat to gently rolling terrain northwest of Green River, at times flanking the more rugged terrain of the San Rafael Reef and Cedar Mountain. Eventually the corridor emerges into the flat to gently rolling Castle Valley. Many intermittent streams cross the area.

#### Natural Resources

Watershed. Soil disturbance in the area may expose highly saline soils and disturb riparian vegetation, which would degrade water quality.

Range Management. This corridor is grazed by livestock and has several range improvements.

Wilderness. Two WSAs, Sids Mountain and Mexican Mountain, lie to the south of the central portion of the corridor.

### Land Use Plans and Concerns

The corridor crosses the San Rafael Resource Area, whose MFP recognizes the need to provide rights-of-way for the 50-mile-long water pipeline between Green River and the Hunter power plant and for the 64-mile-long 345kV transmission line between Green River and the Huntington substation. The MFP also requires protection of various resources.

### **Green River-Price Corridor**

#### Location and Description

This 65-mile-long corridor lies along a portion of valley floor between Green River and Price, Utah, following U.S. Highway 6, the Denver and Rio Grande Western Railroad, and a 138kV transmission line. The corridor then heads northwest into Castle Valley to Price. The corridor crosses mostly BLM-administered public land, although occasionally interspersed sections are state owned.

The corridor has not been assessed by an EIS, nor does any land use plan designate a corridor through the area. BLM's Price River Resource Area management, however, recognizes the need to place utilities in the area and would attempt to accommodate requests for rights-of-way. The corridor is classed as Category 3.

#### Physical Resources

Along the north portion of this corridor, the eastern arm of Castle Valley has been carved by the upper reaches of the Price River. Smaller intermittent and perennial tributaries drain toward the Green River at the south end of the corridor. The terrain along the corridor is gently rolling to flat. Low plant cover allows long vistas.

#### Natural Resources and Land Use Plans and Concerns

No natural resource or land use plans and concerns are known to exist for a pipeline through this corridor.

### **Castle Valley Corridor**

#### Location and Description

The 65-mile-long corridor connects Price, Utah with the junction of Interstate Highway 70 and State Highway 10. The corridor follows State Highway 10 from Price southward through Castle Valley to Interstate 70, past the communities of Huntington, Castle Dale, and Emery.

Several utilities lie within or are proposed for the corridor. Two 345kV transmission lines run south and north from the Hunter and Huntington power plants. Proposed for the corridor is a railroad connecting Elmo, Utah and communities and coal fields to the south, to be operated by the Denver and Rio Grande Western Railroad. A 345kV transmission line was proposed in the Intermountain Power Project (IPP) Salt Wash Proposal EIS, 1979. It would connect the Hunter power plant and the IPP site to the south, following State Highway 10.

The corridor is classed as Category 1. The rights-of-way are addressed in BLM's San Rafael Resource Area MFP, 1979, and all proposed utilities have been assessed in EISs.

### Physical Resources

The corridor passes through Castle Valley, which has flat to gently rolling terrain, broken by numerous intermittent and perennial streams.

### Natural Resources

Visual Resources. Castle Valley is highly scenic, especially toward the proposed corridor's southern end.

Surface Water. Several perennial and intermittent streams drain the valley and adjoining upper slopes and support riparian vegetation.

Minerals. Coal is mined throughout the region, including in portions of the valley floor. Subsidence would be a concern in pipeline construction, and the pipeline itself would be a concern within proposed surface mine areas.

Agriculture/Grazing. Because the valley is heavily grazed, access would need to be maintained.

Soils. Areas of soils subject to a high erosion hazard might occur along the corridor's southern portions.

### Land Use Plans and Concerns

The San Rafael MFP has been prepared to assist decisionmaking for BLM-administered land within the corridor. As such, the plan's recommendations and mitigation requirements would apply to a pipeline.

## **Huntington-Mill Creek Corridor**

### Location and Description

This 60-mile-long corridor heads north from the Castle Dale area to Gilluly, following Soldier Creek Canyon to its intersection with the RMPP Corridor.

Two existing 345kV transmission lines connect the Castle Dale area and the Camp Williams substation and lie along the Castle Dale to Gilluly corridor segment. Utah Power and Light has proposed another 345kV transmission line for the same corridor as the Emery to Huntington and Huntington to Camp Williams transmission lines. The corridor crosses a spur of the Denver and Rio Grande Western Railroad near Scofield Reservoir. Because it is assessed in the Emery Units 3 and 4 EIS, 1977, and the RMPP EIS, 1981, this corridor is classed as Category 1.

### Physical Resources

The corridor heads north from Castle Dale through the broad, gently rolling to flat Castle Valley and outwash areas to a point 10 miles northwest of Price. At this point, the line crosses the steep to rugged landscape of the Wasatch Plateau and the headwaters of the Price River before descending to Gilluly in Soldier Creek Canyon.

### Natural Resources

Soils. Landslide potential is high for the steep and very steep slopes along the corridor's northern portion. According to the Emery Final EIS, 1977, (Emery-Spanish Fork Canyon-Camp Williams transmission line), erosion hazard is high along the corridor's south portion but moderate toward the northern end.

Wildlife. Wildlife along the corridor includes raptors, upland game, and waterfowl toward the south, deer winter range in the middle, and deer and elk summer range in the north.

Visual Resources. Visual resources include Class A scenery and high viewer sensitivity on the northern slopes.

## **Huntington-Mount Pleasant Corridor**

### Location and Description

Paralleling an existing transmission line, this 25-mile-long corridor begins at the Huntington power plant, heads up Meetinghouse Canyon, crosses the Wasatch Plateau to Mount Pleasant, and ties with the Mona substation in central Utah. A second transmission line has been informally proposed for the area. The corridor was environmentally assessed in the Huntington Power Plant EIS, 1975, and has been classed as Category 1.

### Physical Resources

From the Huntington power plant, the corridor heads westward up the steep and rugged Meetinghouse Canyon, follows the top of the steep-sided East Mountain ridge, and descends to the flatter Upper Joes Valley. It then gains elevation and crosses the rugged Wasatch Plateau and descends the steep western slopes again to Mount Pleasant in the Sanpete Valley.

## Natural Resources

Geology. A possible geothermal area has been identified in the Sanpete Valley near Mount Pleasant.

Minerals. Coal occurs along the corridor's eastern portion.

Soils. Areas of soils susceptible to a high erosion hazard and to landslides occur throughout the Wasatch Plateau. Most slopes are steep and very steep. Most commonly, areas of unstable slopes occur on the western side of the plateau because the shale beds dip at a steep angle.

Visual Resources. Higher portions of the Wasatch Plateau are scenic and of high visual sensitivity, and the area is heavily used for many types of recreation, including hunting. Recreationists heavily use the road across the Wasatch Plateau.

Wilderness. Three RARE II areas (units 409, 410, and 413) lie along the corridor, revealing the need to study the corridor for wilderness values.

## Land Use Plans and Concerns

The corridor will most likely be designated a utility corridor in the Manti-LaSal National Forest Land and Resource Management Plan.

## Cottonwood Canyon Corridor

### Location and Description

From State Highway 29, the 11-mile-long Cottonwood Canyon Corridor connects the Ephraim Corridor with the Huntington-Mount Pleasant Corridor in Upper Joes Valley, following Cottonwood Creek and a Forest Service access road. This corridor is classed as Category 3 because it has not been assessed in an EIS or land use plan.

### Physical Resources

The corridor heads north from Utah State Highway 29 through the steep-sided, narrow-bottomed Cottonwood Canyon. As the corridor continues up Cottonwood Creek, the canyon gradually broadens, and the corridor enters Upper Joes Valley.

## Natural Resources

Minerals. A coal mine and associated facilities lie along the road in the bottom of Cottonwood Canyon, and gas wells and pipelines are located along the road toward the northern end of the canyon.

Wildlife. Eagles nest on ledges in the canyon walls toward the southern end of Cottonwood Canyon.



Cultural Resources. A monument to pioneers has been placed along the road within the canyon.

Recreation. Although most recreation along the corridor is dispersed, the upper 2 miles of the corridor is used extensively for camping, especially during the fall hunting season.

### Land Use Plans and Concerns

The Manti-LaSal National Forest Land and Resource Management Plan will most likely designate this corridor as an underground utility corridor. No land use concerns are known as long as a pipeline would not inhibit coal mining and gas production.

### Salina Canyon-Scipio Pass Corridor

#### Location and Description

Connecting Castle Dale with the IPP power plant, this 143-mile-long corridor follows a portion of the Castle Valley Corridor along Utah State Highway 10 south to its junction with Interstate Highway 70 and heads west along the interstate to Salina, Utah. It then proceeds north and west along the portion of the existing Sigurd-Gonder 230kV transmission line corridor, which connects Sigurd, Utah and Gonder, Nevada. After proceeding through Scipio Pass, the corridor intersects the Rocky Mountain Pipeline Project (RMPP), West Salt Lake Corridor and follows it north to the IPP power plant.

The portion of the corridor between Castle Dale and Interstate Highway 70 was analyzed in the Emery Power Project EIS, 1977, and the BLM San Rafael Resource Area MFP, 1979, and the portion along the RMPP, West Salt Lake Corridor is studied in the RMPP EIS, 1981. Portions of this corridor are thus classed as Category 1. The corridor segment following Interstate 70 has been classed as Category 3.

For a discussion of physical and natural resources and land use plans and concerns for the corridor segment coinciding with portions of the Castle Valley Corridor, the RMPP, West Salt Lake Corridor, and the Sigurd-Gonder Corridor, see those corridor descriptions. The remaining portion is discussed below.

#### Physical Resources

Heading west along Interstate 70 from its intersection with the Castle Valley Corridor, the Salina Canyon-Scipio Pass Corridor follows restricted but passable Salina Canyon. Ivie, Meadow, and Salina creeks pass through the canyon as well as an abandoned Denver and Rio Grande Western Railroad grade and portions of an old highway. At Salina, the corridor follows the flat to gently rolling valley along U.S. Highway 50.

## Natural Resources

Minerals. Coal fields underlie the eastern portion of the corridor along Interstate 70, and subsidence from mining may become an issue in the future building of an underground pipeline.

Geology. A possible geothermal area has been identified in the Sigurd-Salina area within the valley as well as in the San Pitch and Sevier Desert valleys.

Vegetation. The east end of Salina Canyon provides essential value habitat for the fishhook cactus.

Wildlife. Critical wildlife habitat in the form of riparian zones lie along Salina Creek and Ivie Creek in Salina Canyon. Salina Canyon also contains essential value habitat for the bald eagle.

Visual Resources. Salina Canyon is a highly scenic area of high visual sensitivity.

Cultural Resources. The Trough Hollow Archaeological District lies near the east end of Salina Canyon.

## **Salina Canyon-Leamington Pass Corridor**

### Location and Description

This corridor connects Castle Dale and the IPP power plant, passing through Salina Canyon, Scipio, and Leamington Pass. This 192-mile-long corridor follows a portion of the Castle Valley Corridor along Utah State Highway 10 south to its junction with Interstate Highway 70, heads west along Interstate 70 to Salina, and continues west to Interstate 70's junction with the existing 230kV transmission line between the Sigurd, Utah and Gonder, Nevada substations. At Scipio, the corridor leaves the utility corridor, heads north, turns west through Leamington Pass, and ends at the IPP power plant.

The portion of the corridor between Castle Dale and Interstate 70 is discussed in the Emery Power Project EIS, 1977, and is classed as Category 1. The corridor segment following Interstate 70 through Salina Canyon has been classed as Category 3.

Because the Castle Valley Corridor has already been described and the segment from the Interstate 70-State Highway 10 junction to Scipio has been discussed under the Salina Canyon-Scipio Pass Corridor description, only the remaining portion from Scipio through Leamington Pass is addressed here.

### Physical Resources

The corridor heads north from Scipio over the flat to gently rolling valley floor. It then proceeds westward through the more rugged but passable Leamington Pass portion of the Pavant Mountains. Descending the western slope of the mountains, the corridor enters the flat Sevier Desert Valley after crossing the Sevier River. It ends at the IPP power plant in an open valley.

## Natural Resources

Ground water is high in the Scipio Valley. No other resource concerns are known.

## **Ephraim Corridor**

### Location and Description

This 115-mile-long corridor follows a more or less direct line between Castle Dale and the IPP power plant. The corridor heads west from Castle Dale along Utah State Highway 29 to Joes Valley Reservoir and then crosses the Wasatch Plateau. It continues down the west flank of the Wasatch Plateau to the Ephraim area and crosses the San Pitch River Valley. It then crosses the San Pitch Mountains and the Sevier River, continues through Leamington Pass to Lynndyl, and ends at the IPP power plant. Because no portions of the corridor are believed to have been studied in an EIS, this corridor is classed as Category 2.

The following discussion addresses features of the corridor segment between Castle Dale and the east entrance to Leamington Pass. For a description of the remaining portion, see the description of the Salina Canyon-Leamington Pass Corridor.

### Physical Resources

From Castle Valley, the Ephraim Corridor heads west along Cottonwood Creek across gentle to moderate terrain. In Straight Canyon the terrain becomes extremely steep and constricted. Passing Joes Valley Dam and Reservoir, the corridor continues across the smooth-to-rugged terrain of the Wasatch Plateau and descends the west flank of the formation to a point near Ephraim. The corridor then heads west across the flat San Pitch Valley to the rugged San Pitch Mountains. Upon descending the west slope of these mountains, the corridor crosses the gentle Juab Valley near Juab and climbs the moderate slopes of the West Hills. After gently descending to Little Valley and crossing the Sevier River, the corridor approaches the east entrance of Leamington Pass.

### Natural Resources

Soils. Areas subject to slope instability and high erosion hazard occur throughout the Wasatch Plateau and over most of the San Pitch Mountains. Stabilization projects are evident to the west and south of Joes Valley Lake.

Recreation. The Wasatch Plateau is an important recreation area, especially for hunting. Recreationists would oppose any development in this area.

Minerals. Subsidence could occur in the coal fields that underlie the eastern half of the corridor.

Ground Water/Geology. The San Pitch Valley has high ground water conditions for most of the year. The valley is also classed as a possible geothermal area.

Wildlife. Cliff-nesting and riparian habitats lie within the corridor.

Wilderness. Numerous Forest Service RARE II units occur across the Wasatch Plateau, including units 412, 414, and 415.

### Land Use Plans and Concerns

The Manti-LaSal National Forest's current planning direction places this corridor in avoidance and exclusion areas on both the Wasatch Plateau and the national forest portions of the San Pitch Mountains. The Forest Service would not permit rights-of-way across an exclusion area. Corridor proposals within avoidance areas would require evaluation and analysis; if impacts could be adequately mitigated, a right-of-way might be granted. No transmission lines or pipeline rights-of-way or potential corridor designations cross national forest portions of the San Pitch Mountains. BLM land use plans do not designate corridors, but normally would permit the granting of rights-of-way.

### **Mountain Fuels Pipeline Corridor**

#### Description and Location

This corridor follows the existing Mountain Fuels pipeline from Price to Indianola, Utah.

The 45-mile-long corridor heads west from Price to Clear Creek and continues northwest across the Wasatch Plateau, following the existing Mountain Fuels natural gas pipeline. Descending the west flank of the Wasatch Plateau, the corridor turns west before reaching Indianola. The corridor then joins the RMPP Corridor at State Highway 132.

The portion of the corridor between Price and Indianola is classed as Category 3 because the pipeline was built before NEPA and no EIS work has been completed.

#### Physical Resources

The corridor heads north and west from Price, crossing gentle to moderate terrain until reaching the boundary of Manti-LaSal National Forest. At this point the terrain becomes moderate to steep and includes narrow ridges on the Wasatch Plateau. The corridor then descends the steep west slopes of the Wasatch Plateau and joins the RMPP Corridor near Indianola.

## Natural Resources

Minerals. Coal occurs along most of the corridor, and subsidence is possible where underground mining has occurred and will occur.

Soils. Areas of soils susceptible to high erosion hazards and to slope instability occur throughout the Wasatch Plateau.

Visual Resources/Recreation. Higher portions of the Wasatch Plateau are scenic and of high visual sensitivity. This area is heavily used for many forms of recreation, including hunting.

Wilderness. Numerous Forest Service RARE II units adjoin the pipeline right-of-way for most of the corridor across the Wasatch Plateau. Units include 401, 403, 405, 406, and 408.

## Land Use Plans and Concerns

This corridor will most likely be designated a utility corridor in the Manti-LaSal National Forest Land and Resource Management Plan.

## **Price Canyon Corridor**

### Location and Description

This 155-mile-long corridor connects a point north of Price, Utah with the IPP plant and follows existing transmission lines, U.S. Highway 6, and the Denver and Rio Grande Western Railroad from northwest of Price to Soldier Summit. It then heads west down Soldier Creek Canyon to the RMPP Corridor, where it follows Salt Creek Canyon, past Nephi. Finally it heads along Utah State Highway 132 to Lynndyl and ends at the IPP plant.

The corridor segment between Price and Soldier Creek Canyon is classed as Category 3 because no EIS work is known to be completed for this segment. The remainder of the corridor is classed as Category 1 because EISs have been completed for the RMPP and IPP.

The following descriptions apply only to the eastern portion of the corridor between Price and the junction with the RMPP Corridor. See the discussion of the RMPP and Central Nevada corridors for descriptions of the remainder of this corridor.

### Physical Resources

The Price Canyon Corridor begins just south of Price and crosses flat to gently rolling terrain for 6 miles north of Price to the entrance of the severely constricted Price River Canyon. The constriction occurs because of the steep, confined canyon walls as well as the presence of the Price River, U.S. Highway 6, the Denver and Rio Grande Western Railroad, and many transmission lines and industrial sites. Leaving the upper reaches of the canyon, the corridor crosses a flat to gently rolling high valley to Soldier

Summit. The corridor then heads west down Soldier Creek Canyon, which is restricted by steep walls, U.S. Highway 6, the river, and transmission lines. In the canyon, the corridor intersects and follows the RMPP, BLM Preferred Alternative Corridor to the IPP plant.

### Natural Resources

Natural resource concerns may include the Price River Canyon, which is severely restricted by topography and existing uses, and Soldier Creek Canyon, which is restricted by topography, unstable slopes, and existing uses.

### Land Use Plans and Concerns

Building a pipeline along this corridor would involve no known land use concerns.

### **Sigurd-Gonder Corridor**

#### Location and Description

This corridor follows an existing 230kV transmission line for 125 miles from the Sigurd substation near Richfield, Utah, north to Scipio Pass, and then west to the Nevada border and the Gonder substation north of Ely, Nevada. The transmission line has been operating for several years and has been evaluated under the NEPA process. BLM's land use plans for the area recognize the existing right-of-way but do not designate a corridor. The corridor is thus classed as Category 1.

#### Physical Resources

The corridor begins at the Sigurd substation in a level valley shaped by the Sevier River. Heading north, it remains in a valley, crossing many canals and streams and paralleling Utah State Highway 26 to the Scipio area. The corridor then turns west through Scipio Pass, a passage for Interstate Highway 15; follows the proposed RMPP Corridor through the mountains; and crosses the flat to gently rolling plain of the Sevier Desert. Upon reaching Kells Knolls, the corridor crosses the moderately rugged House Range Mountains. The corridor continues across the flat to rolling desert of western Utah and the more rugged portions of the Confusion Range to the Nevada border.

#### Natural Resources

Ground Water. Ground water lies near the surface in portions of the Scipio Valley.

Wildlife. A state wildlife refuge for waterfowl lies along the corridor in the Sevier Desert.

Visual Resources. The scenic quality and visual sensitivity of Scipio Pass along Interstate Highway 15 are high, whereas the remainder of the corridor is of common visual quality.

Agriculture/Grazing. Most of the land use along this corridor involves livestock grazing, although some forestry and farming occur.

Special Concerns. Feral horses inhabit the western end of the corridor.

Wilderness. The following wilderness study areas lie within or near the west end of the corridor along the Confusion and House Ranges: Conger, King Top, Howell Peak, and Notch Peak.

## Intermountain Power Project-Northern Nevada Corridor

### Location and Description

The 70-mile-long corridor heads almost due west from the IPP plant to the Nevada border south of the Goshute Indian Reservation, weaving between portions of steeper terrain and in places following old desert roads. The corridor continues into Nevada as the IPP-White Pine Corridor. Portions of the corridor were once considered for part of the IPP transmission line system. Although most of the corridor crosses BLM-administered lands, BLM does not identify a utility corridor through the area. The corridor is thus classed as Category 2.

### Physical Resources

From the IPP plant site the corridor heads almost directly west, swinging slightly northwest to pass to the north of the Drum Mountains. It remains in flat, open terrain as it continues west through Sand Pass between the Fish Springs and House Range mountains. The corridor crosses steeper, more rugged terrain in the Confusion Mountains south of Granite Mountain and finally crosses the flatter and more open Snake Valley to the Nevada border.

### Natural Resources

Agriculture/Grazing. Although crops are grown near Delta, the land use along the corridor consists mostly of livestock grazing and some forestry.

Soils. This corridor crosses mainly desert soils but some mountain and foothills soils on the upper slopes. Most locations have a slight to moderate erosion hazard with occasionally moderate to high portions intermixed.

Wilderness. Two WSAs, Fish Springs Range and Swasey Mountain, lie north and south of the corridor near Sand Pass.

Special Concerns. Feral horses may range throughout western portions of the corridor.

## Intermountain Power Project-Gonder Corridor

### Location and Description

This corridor follows the 230kV transmission corridor proposed in the IPP EIS to connect the IPP plant near Delta with the Gonder substation. The portion of the corridor in Utah is 80 miles long. Within Utah, the latter half of the corridor intersects the existing 230kV transmission line between the Sigurd substation in Utah and the Gonder substation in Nevada. Because it was environmentally assessed by the IPP EIS, 1979, this corridor is classed as Category 1.

### Physical Resources

From the IPP plant, the corridor heads west across the flat valley bottom of the Sevier Desert north of Delta. Upon reaching Kells Knolls, the corridor turns west across the moderately rugged House Range. It then continues across the flat to rolling desert landscape of western Utah and more rugged portions of the Confusion Range to the Nevada border.

### Natural Resources

Soils. The soil erosion hazard along the corridor is generally slight to moderate, with areas of moderate to high hazard on steeper terrain.

Special Concerns. Feral horses range along the corridor's west end, and a few game species (pheasant and deer) inhabit the area along the corridor. A few paleontological sites of significance may also occur.

## Southwestern Intermountain Power Project Corridor

### Location and Description

A part of the IPP Southern California Transmission System, this 85-mile-long corridor connects the RMPP, Sanpete Valley Alternative with Southern California via the Harry Allen proposed power plant. The corridor begins at Summit, Utah and heads southwest along Interstate Highway 15, past Cedar City and St. George, Utah. It crosses a small corner of Arizona and ends at the Nevada border. Because the corridor has been assessed in the IPP Salt Wash Proposal EIS, 1979, it is classed as Category 1.

### Physical Resources

The corridor begins in the flat Parowan Valley and follows the breaks between the valley and side hills. It crosses more varied and rugged terrain near St. George and through Arizona to the Nevada border.



## Natural Resources

Soils. This corridor crosses predominantly desert soils and a section of mountain and foothills soils near Red Butte Canyon.

Visual Resources. Visual sensitivity along this corridor is generally moderate to high.

Wilderness. Areas of special concern include RARE II unit 07015 near middle of the corridor in Dixie National Forest and BLM WSAs near Horse Ranch Mountain (Spring Creek Canyon WSA) and north of Harrisburg Junction (Cottonwood Canyon WSA).

Wildlife. A raptor concentration area lies in the Arizona portion of this corridor, as does potential desert bighorn sheep range. Critical deer range occurs near Black Ridge.

Cultural Resources. Eleven cultural resource sites are known to occur along this corridor. Two sites are eligible for nomination to the National Register of Historic Places.

Paleontology. Paleontological sites along the corridor range from low to moderate in potential significance.

## **West Intermountain Power Project Corridor**

### Location and Description

The 100-mile-long corridor follows a portion of the IPP transmission line corridor proposed to link the Paragonah substation in Utah with the Lincoln substation in Nevada. Because the corridor has been assessed in the IPP Salt Wash Proposal EIS, 1979, it is classed as Category 1.

### Physical Resources

The corridor lies entirely within the Escalante Desert in southwest Utah and has flat to gently rolling terrain with occasionally more defined local relief.

### Natural Resources

Soils. The corridor crosses mainly desert soils, including a small portion of mountain and foothills soils near the Nevada border. Erosion hazard is high on each end of the corridor and slight to moderate in the middle.

Visual Resources. Visual sensitivity is a blend of high, medium, and low ratings. Scenic quality is mainly Class C, but Class B areas occur in higher regions near the western border.

Wildlife. The Utah prairie dog inhabits the central portion of the corridor, and feral horse herds range along sections at each end. Critical deer range occurs at the extreme west end of the corridor.

Cultural Resources. Eight cultural resource sites along this corridor may be eligible for nomination to the National Register of Historic Places.

Paleontology. Paleontological resources along the corridor range from low to medium in significance.

## Sevier-Escalante Desert Corridor

### Location and Description

This corridor begins at Nephi, Utah and parallels State Highway 132 to Lynndyl, passing through Leamington Canyon. The corridor continues southwest to Delta, following U.S. Highways 6 and 50. It then heads south through the Sevier Desert, following State Highway 257 and the Union Pacific Railroad right-of-way to Milford. Continuing southwest through the Escalante Desert, the corridor follows the Union Pacific Railroad and county road rights-of-way to the intersection with the RMPP Corridor, 2 miles north of Newcastle.

This corridor is classed as Category 1 because it was assessed in the RMPP Final EIS, 1981. Most of this corridor follows existing roads, highways, or railroad rights-of-way.

### Physical Resources

This corridor crosses broad intermountain valleys (Juab and Dog valleys), the strongly sloping and steep West Hills area west of Nephi, Leamington Canyon, and the broad, flat to rolling Sevier Desert. Leamington Canyon is somewhat restricted by the Sevier River and State Highway 132.

### Natural Resources

Soils. The corridor crosses 5 miles of strongly sloping and steep soil areas. Areas with water tables less than 72 inches below the surface occur in the Juab Valley and along the Sevier River near Leamington. Soils subject to moderate to high wind erosion hazards occur in the Sevier Desert west of Leamington.

Wildlife. The corridor crosses deer winter range near Government Spring, west and south along the corridor to Furner Ridge, between Soma and Leamington, and between Milford and Thermo Siding. Sage grouse populations occur along Dog Valley Wash, and a golden eagle nest lies 2 miles west of this corridor in the Cricket Mountain area.

Cultural Resources. Site density is projected to be moderate to high where this corridor parallels the Sevier and Beaver rivers. Fort Desert and a Paleo-Indian campsite 15 miles southwest of Fort Desert are listed on the National Register of Historic Places.

#### Land Use Plans and Concerns

Building a pipeline through this corridor would cause no known conflicts with land use plans or policies.

#### Central Nevada Corridor

##### Location and Description

From Nephi, Utah, this corridor follows State Highway 132 to Lynndyl, and crosses through the Leamington Canyon area. Paralleling U.S. Highways 6 and 70, it continues southwest and west to Delta and the Utah-Nevada border. This corridor is classed as Category 1 because it was assessed in the RMPP Final EIS, 1981.

##### Physical Resources

This corridor crosses broad intermountain valleys (Juab and Dog valleys); the strongly sloping and steep West Hills area west of Nephi; the Leamington Canyon area; the broad, flat to rolling Sevier Desert; and the sideslopes of the Confusion and House mountain ranges. Leamington Canyon is somewhat restricted by the Sevier River and State Highway 132.

##### Natural Resources

Soils. The corridor crosses 18 miles of strongly sloping and steep soil areas. Areas with water tables less than 72 inches below the surface occur in the Juab Valley and along the Sevier River near Leamington. Soils subject to moderate and high wind erosion hazards occur in the Sevier Desert west of Leamington.

Wildlife. Deer winter range occurs near Government Spring, west and south along the corridor to Furner Ridge, and between Soma and Leamington. Sage grouse populations occur along Dog Valley Wash.

Wilderness. This corridor crosses Notch Peak WSA in the House Mountain Range west of Delta.

Cultural Resources. Cultural resource site density along the Sevier River is projected as moderate to high, with numerous residential camps.

#### Land Use Plans and Concerns

Pipeline construction along this corridor would cause no other known conflicts with land use plans or policies.

## **Sanpete Valley Corridor**

### Location and Description

Mainly following highway rights-of-way, this corridor begins 6 miles south of Indianola (where it divides from the RMPP, Sanpete Alternative Corridor) and crosses through the Sanpete Valley, paralleling U.S. Highway 89. It continues southwest through Richfield to Sevier, following U.S. Highway 89 through a mountain valley and turning south through a narrow mountain valley along the Sevier River to Spry. It then heads west across the strongly to steep sloping terrain of the Markagunt Plateau to Parowan Valley, where it parallels Interstate Highway 15 to Enoch, Utah and crosses westward to intersect the RMPP Corridor in the Escalante Desert, south of Avon, Utah. This corridor is classed as Category I because it was assessed in the RMPP Final EIS, 1981.

### Physical Resources

Most of this corridor passes through broad intermountain river valleys and desert valleys. The corridor crosses mountainous terrain between the Sevier River Valley and the Escalante Desert near Paragonah.

### Natural Resources

Soils. The corridor crosses 29 miles of steeply sloping mountain soils.

Wildlife. The corridor crosses deer winter range near the Sevier River, and good raptor habitat occurs in the Sanpete Valley and along the Sevier River near Circleville.

Agriculture. The corridor crosses croplands in the intermountain valleys.

### Land Use Plans and Concerns

No known conflicts with land use plans or policies would be caused by building a pipeline along this corridor.

## **West Salt Lake Corridor**

### Location and Description

From Sage, Wyoming, this corridor heads northwest, following the existing Northwest pipeline to Montpelier, Idaho. From Montpelier the corridor crosses Caribou National Forest to State Highway 34 to Preston, Idaho and heads south to the Utah border. It then goes around the west side of Great Salt Lake, heads south to Delta, Utah, and continues south to Fillmore, Utah, where it intersects the RMPP Corridor. This corridor is classed as Category 1 because it was assessed in the RMPP Final EIS, 1981.

## Physical Resources

This corridor crosses 31 miles of mountainous terrain, mainly in Idaho and northern Utah. The remaining portion crosses the expansive, flat to gently sloping Great Salt Lake Desert, 74 miles of playa subject to low strength conditions.

## Natural Resources

Soils. Sixty miles of very strongly saline and alkaline soils border the north and west sides of Great Salt Lake.

Wildlife. The corridor crosses deer winter range where it enters Utah near the Cache County-Box Elder County boundary and the North Promontory Mountain area.

## Land Use Plans and Concerns

Building a pipeline through this corridor would cause no known conflicts with land use plans or policies.

## **Rocky Mountain Pipeline Project (RMPP) Corridor**

### Location and Description

This corridor begins near Sage, Wyoming (12 miles west of Kemmerer, Wyoming) and heads west, crossing the Bear River near the Wyoming-Utah border. It then heads south to Coalville, Utah, crossing an area of mountain sideslopes. Continuing south through mountainous terrain around the Kamas Valley, the corridor turns southwest at Mill Fork, again passing through mountains to Indianola and Nephi, Utah. From Nephi, this corridor follows the Union Pacific Railroad and U.S. Highway 91 to Scipio. It then follows Interstate Highway 15 to a point 12 miles southwest of Hutton, diagonally crosses rolling terrain to Milford, and continues to the southwest to Avon. Finally, following secondary road rights-of-way, the corridor heads cross-county over sloping terrain to the Utah border.

This corridor is classed as Category 1, being assessed in the RMPP Final EIS, 1981. Much of this corridor would not parallel existing utility rights-of-way, especially in mountain sideslope areas.

## Physical Resources

This corridor crosses major terrain types of moderately steep and steep mountain sideslopes, narrow mountain canyons, intermountain valleys, and portions of the Escalante Desert. About 114 miles of this corridor cross mountain sideslopes, including areas subject to landslides.

## Natural Resources

Soils. This corridor crosses 114 miles of moderately steep and steep mountain soils having specific areas of slope instability. The area near Fossil, Wyoming is subject to a slope stability hazard.

Vegetation. The forest vegetation type typical of the more moist mountain areas is of concern because disturbed areas require longer periods of time to revegetate to near preconstruction conditions.

Visual Resources. Most of the mountain sideslopes and mountain valleys are highly scenic and have a high visual sensitivity.

Wildlife. North of Beaver, Utah, this corridor crosses sagebrush habitat occupied by sage grouse.

Recreation. High recreation values occur in the Strawberry Reservoir area, but recreation along the remainder of the route is dispersed and generally of low value.

Cultural Resources. Several cultural resource sites have been found along portions of the corridor. The Nephi Mounds area represents an important Fremont site, and the Mineral Mountain area contains many Archaic sites and a Paleo-Indian site.

## Land Use Plans and Concerns

This corridor crosses Uinta National Forest, where it conflicts with the Utility Rule of the proposed forest land and resource management plan.

### 2.2.4 Arizona Corridors

Only one corridor in Arizona has been described. Identified in the IPP Salt Wash Proposal EIS, 1979, to transport electrical energy from the Parowan substation in southwest Utah to southern California via the proposed Harry Allen power plant, this corridor cuts through the extreme northwest corner of Arizona. Because only 10 miles of this route passes through Arizona, this segment is described as part of the Southwestern IPP Corridor in Utah

### 2.2.5 Nevada Corridors

#### General Description

The Phase I corridor study for Nevada found nine potential corridors. Because a 10-mile corridor width was used and to avoid duplication in describing corridors, several other paralleling corridors were not identified. Six north-south corridors were identified between the White Pine proposed and alternative power plant sites and the Las Vegas Valley area: (1) White Pine-Las Vegas Corridor 1; (2) White Pine-Las Vegas Corridor 2; (3) White Pine Power Plant EIS-White River Valley Corridor; (4) BLM-Maintained Road 2118 Corridor; (5) Cathedral Gorge Meadow Valley Corridor; and (6) Cathedral Gorge Kane Springs Corridor. The Rocky Mountain Pipeline Project (RMPP), BLM-Preferred Corridor and the Allen-Warner Valley Corridor in southern Nevada

is also described. These corridors extend from southwest Utah to the Las Vegas Valley area. The corridors west of the White Pine proposed and alternative power plant sites consist of the Central Nevada Corridor and the Central Nevada-Highway 264 Corridor. The east-west corridors between the Nevada-Utah border and the White Pine proposed and alternative power plant sites consist of the IPP-White Pine Corridor and the Wheeler Peak-White Pine Corridor.

Seven routes crossing the Las Vegas Valley area are presented as routes rather than corridors because of land use constraints, high urban density, and environmental considerations. All seven routes are a mile wide or less. These routes are described in Section 2.2.6.

### **White Pine-Las Vegas Corridor 1**

#### Location and Description

From the northern most alternative site for the White Pine proposed power plant (North Steptoe Valley site), this corridor follows U.S. Highway 93 south, within the BLM Ely District's (Egan Resource Area) Planned Corridor 2. At the intersection of Nevada State Highway 2 and U.S. Highway 93, the corridor heads east and intersects and follows State Highway 893 south through Spring Valley and along the east slope of Humboldt National Forest, to U.S. Highway 6. Continuing south, the corridor intersects U.S. Highway 93, passing the White Pine alternative power plant site at Spring Valley, southeast of Ely and just east of Connors Pass. In Lake Valley, the corridor continues south along U.S. Highway 93 to a two-track jeep trail, which intersects BLM maintained road 2118. The corridor continues south along BLM maintained road 2118, through Delamar Valley to U.S. Highway 93, and on into the Las Vegas Valley area.

The initial portion of the corridor from the White Pine proposed power plant at North Steptoe Valley southward along U.S. Highway 93 to its intersection with State Highway 2 is classed as Category 3. The segment along U.S. Highway 93 between Connors Pass (U.S. Highway 6) and the intersection with the two-track jeep trail in Lake Valley is classed as Category 1 because it follows the Schell Resource Area's planned energy and utility corridor. The remaining corridor segments follow existing road rights-of-way that have not had EIS work or been designated as utility corridors through land use planning. These corridor segments are thus classed as Category 3.

#### Physical Resources

Because the corridor follows existing road rights-of-way and crosses broad north-south valleys, grade would pose no problems. The corridor also passes through Spring, Lake, Dry Lake, and Delamar valleys, avoiding the Schell Creek Mountain Range within Humboldt National Forest, the Delamar Mountains, and the Sheep Mountain Range within the Desert National Wildlife Range.

## Natural Resources

No major natural resource concerns would result from a pipeline paralleling existing road rights-of-way.

## Land Use Plans and Concerns

The first portion of the corridor from the White Pine proposed power plant site at North Steptoe Valley southward along U.S. Highway 93 to the junction of Nevada State Highway 2 is being considered as a utility corridor in the forthcoming BLM Egan Resource Area Resource Management Plan and EIS. The corridor segment along U.S. Highway 93 between Connors Pass and the intersection with the two-track jeep trail in Lake Valley has been identified as a utility corridor in the BLM Schell Resource Area Management Framework Plan (MFP), 1983. In addition, the corridor crosses Delamar Valley, which has been identified in the BLM Caliente Resource Area Unit Resource Analysis as having agricultural potential. U.S. Highway 93, south of the Pahrnagat National Wildlife Refuge, follows the southwest boundary of the BLM's Delamar Mountain WSA.

## **White Pine-Las Vegas Corridor 2**

### Location and Description

From the White Pine proposed power plant at North Steptoe Valley, this corridor follows the BLM Ely District's (Egan Resource Area) Planned Corridor 2, Alternative Corridor 2, and Planned Corridor 3 southward to west of Murry Canyon. From this point, the corridor continues south along a corridor being planned by BLM southwest of Ely, Nevada. At the intersection of the proposed corridor and State Highway 38, the corridor follows State Highway 38 southward through the White River Valley and Pahrnagat Valley and intersects and follows U.S. Highway 93 south into the Las Vegas Valley area.

The segment from North Steptoe Valley to the point west of Murry Canyon is classed as Category 2, as is the segment along a potential utility corridor being planned by BLM. The segment along State Highway 38 between Connors Pass and the intersection with U.S. Highway 93 is classed as Category 1, having been identified as a utility corridor in the Schell Resource Area MFP, 1983. The remaining portions of the corridor follows existing road rights-of-way that have not had EIS work or have not been designated as utility corridors through land use planning. These corridor segments are classed as Category 3.

## Physical Resources

In following existing road rights-of-way and planned utility corridors, this corridor crosses broad north-south valleys, and grade would pose no problems. The corridor parallels the Steptoe, White River, and Pahrnagat valleys, avoiding the Egan Mountain Range, Murry Canyon, the Seaman Mountain Range, the Delamar Mountains, and the Sheep Mountain Range within the Desert National Wildlife Range.



## Natural Resources

No major natural resource concerns are expected to result from the corridor following existing road rights-of-way or planning utility corridors. The corridor, however, followed the boundaries of three BLM wilderness study areas (WSAs): (1) the western border of South Egan WSA along State Highway 38, (2) the eastern border of Weepah Springs WSA along State Highway 38, and (3) the southwest border of Delamar Mountain WSA along U.S. Highway 93.

## Land Use Plans and Concerns

A potential utility corridor from the White Pine proposed power plant site at North Steptoe Valley to a point west of Murry Canyon is being considered as a utility corridor in the forthcoming BLM, Egan Resource Area Management Plan and EIS (identified as Planned Corridor 2, Alternative Corridor 2, and Planned Corridor 3). West and south of Murry Canyon, the corridor follows a BLM-planned utility corridor. The corridor segment along State Highway 38 between Connors Pass and the intersection with U.S. Highway 93 has been identified as a utility corridor in the BLM Schell Resource Area MFP. In addition, the corridor crosses Pahrnagat National Wildlife Refuge along U.S. Highway 93 and the Pahrnagat Valley, an area identified as having agricultural potential in the BLM Caliente Resource Area Unit Resource Analysis.

## **White Pine Power Plant EIS-White River Valley Corridor**

### Location and Description

The White Pine Power Plant EIS-White River Valley Corridor starts at the Butte Valley alternative plant site and heads south through Jakes Valley, White River Valley, and Coal Valley until intersecting Nevada State Highway 38, north of Hiko, Nevada. The entire corridor was environmentally assessed in the White Pine Power Project Draft EIS, 1983, and is thus classed as Category 1.

### Physical Resources

From the White Pine alternative plant site at Butte Valley, the corridor heads north along Jakes Valley, east of the Humboldt National Forest boundary and the Horse Mountain Range. The corridor then enters the broad north-south spanning White River Valley. From the White River Valley, the corridor enters Coal Valley, which lies west of the Seaman Mountain Range.

### Natural Resources and Land Use Plans and Concerns

A pipeline through this corridor would involve no known major natural resource or land use concerns.

## BLM-Maintained Road 2118 Corridor

### Location and Description

From the main substation for the Lincoln County 69kV power transmission line near Pioche, Nevada, this corridor heads southwest along this power line to its intersection with a two-track jeep trail in Dry Lake Valley. Because it parallels a transmission line that has not been environmentally assessed, this corridor is classed as Category 3.

### Physical Resources

The corridor crosses the southern end of the Highline Mountain Range.

### Natural Resources

The corridor crosses areas having known cultural resource sites.

### Land Use Plans and Concerns

A pipeline through this corridor is not expected to greatly conflict with land use plans or create land use concerns.

## Cathedral Gorge-Meadow Valley Corridor

### Location and Description

This corridor is identical to the White Pine Las Vegas Corridor 1 up to the point where a two-track jeep trail crosses the southern end of Lake Valley. From this point, the corridor continues south, following U.S. Highway 93 to Caliente. From Caliente, the corridor parallels the Union Pacific Railroad and Lincoln County maintained roads 4230 and 4299 through Meadow Valley. The corridor then intersects the RMPP, BLM-Preferred Corridor at Interstate Highway 15 near Moapa and follows it southwest into the Las Vegas Valley area.

Because the Cathedral Gorge-Meadow Valley Corridor follows existing rights-of-way that have not been environmentally assessed or formally designated through land use planning, its entire length is classed as Category 3.

### Physical Resources

The corridor follows existing rights-of-way through Meadow Valley, where grade poses no problems. Between Caliente and Interstate Highway 15, the corridor follows Meadow Valley Wash, crossing it several times.

### Natural Resources

Vegetation. Riparian vegetation grows along Meadow Valley Wash and would be subject to some disturbance from pipeline construction.

Wilderness. Two BLM WSAs, Mormon Mountain and Meadow Valley Range, adjoin the Union Pacific Railroad and Lincoln County Road 4299 rights-of-way, leaving this area as a tight corridor "window" to cross. In addition, the corridor parallels the southwest border of Grape Vine Springs WSA along Lincoln County maintained road 4230.

#### Land Use Plans and Concerns

In following U.S. Highway 93 north of Caliente, the corridor parallels the eastern boundary of Cathedral Gorge State Park.

### **Cathedral Gorge-Kane Springs Corridor**

#### Location and Description

This corridor is the same as White Pine-Las Vegas Corridor 1 up to the point where a two-track jeep trail crosses the south end of Lake Valley. From this point, the corridor continues south, paralleling U.S. Highway 93 to Caliente, Nevada. From Caliente, the corridor parallels BLM maintained road 4266 and Lincoln County maintained road 4217 through Kane Springs Valley. The corridor then intersects and parallels old U.S. Highway 93 south to its intersection with the RMPP, BLM-Preferred Corridor near Moapa, Nevada.

Because this corridor follows existing rights-of-way that have not been environmentally assessed or formally designated through land use planning, its entire length is classed as Category 3.

#### Physical Resources

The corridor follows existing road rights-of-way through Kane Springs Valley, and grade would pose no problems. The corridor segment between Caliente and the intersection with U.S. Highway 93 parallels Kane Springs Valley and avoids the Delamar Mountains.

#### Natural Resources

A pipeline along this corridor would cause no major natural resource concerns because this corridor follows existing road rights-of-way.

#### Land Use Plans and Concerns

In following U.S. Highway 93 north of Caliente, the corridor parallels the eastern boundary of Cathedral Gorge State Park. The presence of two BLM WSAs, Meadow Valley Range and Delamar Mountain, adjoining Lincoln County maintained road 4217 through Kane Springs Valley creates a "window" through which the corridor has to pass. In addition, the corridor follows the western boundary of Grape Vine Springs WSA along BLM-maintained road 4266.

## Rocky Mountain Pipeline Project, BLM-Preferred Corridor

### Location and Description

This corridor crosses southern Nevada, following the Rocky Mountain Pipeline Project (RMPP), BLM-Preferred Corridor. From north of Mesquite, the corridor heads southwest towards Moapa. Four miles east of Moapa, the corridor crosses to the south side of Interstate 15 at Glendale and follows Interstate 15 into the Las Vegas Valley area. (See the Las Vegas Valley Area Routes, Section 2.2.6.) South of the Las Vegas Valley area, the corridor follows U.S. Highway 95 to the Nevada-California border.

Because the RMPP, BLM-Preferred Corridor has been assessed in the RMPP, Final EIS, 1981, this corridor is classed as Category 1.

### Physical Resources

This corridor follows an environmentally assessed route for a natural gas pipeline and parallels Interstate Highway 15. Grade would thus pose no problems for a pipeline. The corridor passes through Moapa and Dry Lake Valley north of Las Vegas but avoids the Mormon Mountain Range. South of the Las Vegas Valley area the corridor crosses the Eldorado Valley but avoids the McCullough Mountain Range.

### Natural Resources

No major natural resource concerns would result from placing a pipeline along this corridor.

### Land Use Plans and Concerns

North of Las Vegas, the corridor passes through a designated 3,000-foot-wide energy and utility corridor, which crosses the Moapa Indian Reservation. South of Las Vegas along U.S. Highway 95, the route passes through the Eldorado Valley, in which an industrial park is planned.

## Allen-Warner Valley Corridor

### Location and Description

From the Arizona-Utah border 10 miles north of Interstate 15, this corridor heads southwest to the proposed Harry Allen power plant site northeast of Las Vegas. Because the Allen-Warner Corridor was assessed in the Allen-Warner Valley Energy System EIS, 1980, this corridor is classed as Category 1.

### Physical Resources

The corridor generally follows Dry Lake Valley, south of the Mormon Mountains. The corridor also crosses the Muddy River.

## Natural Resources

The corridor crosses desert tortoise habitat and areas known to rich in archaeological values.

## Land Use Plans and Concerns

The corridor crosses Dry Lake Valley, an area used for several off-road vehicle events each year.

## **Rocky Mountain Pipeline Project, Central Nevada Corridor**

### Location and Description

This corridor parallels U.S. Highway 6 from east to west across central Nevada, deviating from the highway in three places. First, to avoid Murry Canyon west of Ely, the corridor follows the BLM Ely District's (Egan Resource Area) Planned Corridor 2. Second, to avoid the Currant Summit and Currant Canyon area, the corridor follows a potential corridor to the east and south of Currant Pass, as suggested by the Forest Service, and rejoins U.S. Highway 6 near Currant, Nevada. Third, to avoid private land within Toiyabe National Forest along U.S. Highway 6 east of Tonopah, the corridor follows an alternative route suggested by the Forest Service to the south of the forest and then rejoins U.S. Highway 6.

Because the RMPP, Central Nevada Alternative has been assessed in the RMPP Final EIS, 1981, all of this corridor is classed as Category 1 except for the three segments that would deviate from the RMPP Corridor, which are classed as Category 2 because they have not been environmentally assessed.

### Physical Resources

This corridor follows U.S. Highway 6 and avoids several mountain ranges, including (from east to west) the Snake, Egan, Grant, Toiyabe, and White mountain ranges. Grade would thus pose no problems for a pipeline. The corridor crosses Connors Pass, a tight but passable canyon area.

### Natural Resources

No major natural resource concerns would result from building a pipeline along this corridor because the corridor parallels U.S. Highway 6 and because the three deviating segments avoid Murry Canyon, Currant Summit, Currant Canyon, and the private land within Toiyabe National Forest. The Connors Pass and canyon area is an elk wintering area.

### Land Use Plans and Concerns

Three corridor segments along U.S. Highway 6 follow planned or suggested utility corridors, as preliminarily identified by the Forest Service and BLM. In addition, the corridor crosses the northern edge of an oil-producing field

in Nevada, 10 miles southwest of Carrant. The corridor also crosses the proposed addition to the Lunar Crater National Natural Landmark, 30 miles northeast of Warm Springs. The Connors Pass segment crosses Humboldt National Forest, but is not being considered as a potential utility corridor by the Forest Service.

## Central Nevada-Highway 264 Corridor

### Location and Description

This corridor is similar to the RMPP, Central Nevada Alternative (which follows U.S. Highway 6 from east to west) but has three deviating segments to avoid Murry Canyon, Carrant Summit, Carrant Canyon, and private land in Toiyabe National Forest. In addition, for its last 28 miles in western Nevada this corridor heads south along State Highway 264 to the Nevada-California border, where it connects to the Westguard Road Corridor in California. The corridor segment following the RMPP, Central Nevada Alternative, excluding the three segment deviations (see the preceding discussion of the Central Nevada Corridor), are classed as Category 1. The corridor segment following State Highway 264 is classed as Category 3 because this right-of-way has not been environmentally assessed.

### Physical Resources

The corridor segment following State Highway 264 crosses Fish Lake Valley along the eastern slope of the White Mountains, and grade would pose no problems. (See the RMPP, Central Nevada Corridor for a description of the remaining portion of the Central Nevada-Highway 264 Corridor.)

### Natural Resources

No major natural resource concerns would result from building a pipeline along this corridor because the corridor follows U.S. Highway 6 and State Highway 264. Moreover, the three deviating segments avoid Murry Canyon, Carrant Summit, Carrant Canyon, and private land within Toiyabe National Forest. The Connors Pass and canyon area is an elk wintering area.

### Land Use Plans and Concerns

A pipeline along the corridor segment following State Highway 264 would not conflict with land use plans or present land use concerns. (See the discussion of the Central Nevada Corridor, Land Use Plans and Concerns, for details on the remaining portion of the corridor.)

## **IPP-White Pine Corridor**

### Location and Description

This corridor for the Intermountain Power Project (IPP) enters Nevada south of the Goshute Indian Reservation and heads north-northwest to the White Pine proposed power plant site at North Steptoe Valley or the alternative power plant site at Butte Valley. It passes through Pleasant Valley, follows State Highway 2 (which crosses Spring Valley), and heads north along U.S. Highway 93 to the proposed power plant site at North Steptoe Valley plant site or along BLM planned corridor 2 to the alternative power plant site at Butte Valley.

### Physical Resources

The grade of this corridor would pose no problems for a pipeline because the corridor follows valley floors and existing road rights-of-way.

### Natural Resources

No major natural resource concerns would result from building a pipeline along this corridor.

### Land Use Plans and Concerns

The corridor segment following U.S. Highway 93 southward has been preliminarily identified as Planned Corridor 2 in the forthcoming BLM Egan Resource Area Management Plan.

## **Wheeler Peak-White Pine Corridor**

### Location and Description

Entering Nevada from Utah, 10 miles north of U.S. Highway 6, this corridor heads west, paralleling the Mount Wheeler power line (between the Mount Moriah and Wheeler Peak divisions of Humboldt National Forest). Five miles north of Baker the corridor intersects U.S. Highway 6 and follows it through Connors Pass. At Ely, the corridor heads north, following U.S. Highway 93 within the BLM Ely District's (Egan Resource Area) Planned Corridor 2, to the White Pine proposed power plant site at North Steptoe Valley.

The entire corridor is classed as Category 1. The corridor segment from the Nevada-Utah border westward to its intersection with U.S. Highway 6 in Spring Valley (northeast of Connors Pass) has been environmentally assessed in the IPP EIS, 1979. The segment following U.S. Highway 6 through Connors Pass to its junction with U.S. Highway 93 was environmentally assessed in the RMPP EIS, 1981. And the segment following U.S. Highway 93 north to the White Pine proposed power plant site at North Steptoe Valley has been preliminarily identified in the BLM Ely District as Planned Corridor 2 for the forthcoming Egan Resource Area Resource Management Plan.

### Physical Resources

The corridor does not exceed any grade constraints because it follows existing road rights-of-way. The corridor crosses between Mount Moriah and Wheeler Peak, crosses Spring Valley, crosses Connors Pass (a tight but passable canyon area), and finally heads north along Steptoe Valley.

### Natural Resources

The Connors Pass and canyon area is an elk wintering area.

### Land Use Plans and Concerns

The segment of the corridor following U.S. Highway 93 northward has been preliminarily identified as Planned Corridor 2 in the forthcoming BLM Egan Resource Area Management Plan. The Connors Pass segment crosses Humboldt National Forest, but is not being considered as a potential utility corridor by the Forest Service.

## **Intermountain Power Project South Corridor**

### Location and Description

South of the Las Vegas Valley area, this corridor leaves the Rocky Mountain Pipeline Project, BLM-Preferred Corridor and heads southwest through McCullough Pass to the Ivanpah proposed power plant site in California. Because this corridor follows a route that was environmentally assessed in the IPP EIS, 1979, the corridor is classed as Category 1.

### Physical Resources

The corridor crosses the McCullough Mountain Range through McCullough Pass. From this pass, the corridor follows desert valley floors to Ivanpah Dry Lake, the site for the proposed Ivanpah Power Plant.

### Natural Resources

The corridor crosses desert tortoise habitat and areas known to be high in archaeological values (McCullough Pass).

### Land Use Plans and Concerns

Once the corridor enters California, it passes through the California Desert Conservation Area (CDCA), following the 3-mile-wide designated energy and utility Corridor BB.



## 2.2.6 Las Vegas Valley Area Routes

### General Description

Phase I of the Aquatrain Corridor Study identified possible pipeline routes through the Las Vegas Valley area. The Las Vegas Valley area is a 22- by 26-mile block of land designated by BLM as the Las Vegas Planning Area. The area includes the cities of Las Vegas, Henderson, and North Las Vegas; the lower end of the Desert National Wildlife Range; the Sheep Mountain Gunnery Range; Nellis Air Force Base; a variety of special use areas, unincorporated towns; and private land and federally administered land, all within Clark County, Nevada.

Many utility companies have been and are now looking for new routes through the Las Vegas Valley area en route to southern California. This demand for new routes has prompted landowners to insist on participating in the companies' route location planning process.

Knowing these obvious landowner concerns, the Bureau of Reclamation and BLM planning staffs met with officials of the Clark County Planning Department, cities of Henderson and North Las Vegas, Nellis Air Force Base, and Lake Mead National Recreation Area. The purpose of these meetings was to solicit the help of these organizations in identifying specific land use concerns and in determining possible routes for the Aquatrain pipeline. Other entities that will need to be involved as studies progress include the city of Las Vegas, Las Vegas Wash Committee, Clark County Department of Parks and Recreation, Clark County Sanitation District, Clark County Public Works Department, U.S. Department of Transportation, Department of Highways, affected private landowners, and special interest groups.

Routes being evaluated for the placement of the Aquatrain pipeline range in width from several hundred feet to a mile. This flexibility in route widths may be able to give the pipeline room to avoid specific land use constraints.

Routes through the Las Vegas Valley area have been identified and evaluated for only the specific requirements of the AQUATRRAIN Project and not as part of a multi-purpose utility corridor. Route impacts for Category 1, 2, and 3 routes will be environmentally assessed at a more detailed level of study in the forthcoming AQUATRRAIN Project EIS.

### Rocky Mountain Pipeline Project, BLM-Preferred Route

#### Location and Description

The BLM-Preferred Route for the Rocky Mountain Pipeline Project (RMPP) high-pressure natural gas pipeline passes just east of the Las Vegas Valley area. The route enters the Las Vegas Valley area 16 miles south of the area's northeast corner and remains within the area for 5 miles. It then continues south outside the Las Vegas Valley area's east boundary, through the city of Henderson.

The route passes through Sunrise Mountain Natural Area (proposed natural landmark), Las Vegas Wash (Clark County Wetlands Park), the city of Henderson, and a 105,000-acre parcel slated for transfer from BLM to the State of Nevada. This route has been assessed in the RMPP Final EIS, 1981, and is thus classed as Category 1.

### Physical Resources

The topography along this route within the Las Vegas Valley area is flat to rolling, except for where the route crosses Sunrise Mountain Natural Area and Frenchman Mountain-Rainbow Gardens Natural Area.

### Natural Resources

Visual Resources. The area along the route where pipeline construction would be most apparent is Frenchman Mountain-Rainbow Gardens.

Cultural Resources. This route crosses Las Vegas Wash, an area of high cultural resource sensitivity.

### Land Use Plans and Concerns

A pipeline along this route would cause two major land use concerns: (1) the interference with surface uses during pipeline construction through Henderson and (2) opposition to a single use route through the urban area. Joint use of the route, such as by a street, would likely be acceptable, particularly if the city of Henderson could derive benefits.

A recent example of the potential political concerns occurred when the Henderson Planning Commission rejected the Intermountain Power Project's (IPP) request for a conditional use permit to build a high-voltage transmission system. The permit was denied because of potential interference with city expansion plans involving surface use.

## **Rocky Mountain Pipeline Project, East Las Vegas Variation Route**

### Location and Description

An East Las Vegas Variation of the RMPP high-pressure natural gas pipeline is proposed for the Las Vegas Valley area. The route leaves the RMPP, BLM-Preferred Corridor south of the Proposed Harry Allen power plant site and rejoins the RMPP, BLM-Preferred Corridor 8 miles north of Searchlight, Nevada. The route enters the Las Vegas Valley area 7 miles south of the area's northeast corner, turns south, and leaves the area at its southwest corner. It crosses a narrow strip of Nellis Air Force Base and follows IPP's right-of-way southward, paralleling Sloan's ditch and the proposed sewer line leading to the proposed Allen Warner power plant. This route then proceeds to Clark County Wetland Park, Las Vegas Wash, and proposed Interstate Highway 515. The route leaves the Las Vegas Valley area on the south side.

The East Las Vegas Variation Route has two alternatives: (1) where the route intersects U.S. Highway 95/93, it parallels the highway southeast for 7 miles and then intersects and follows the RMPP, BLM-Preferred Alternative Route southward out of the Las Vegas Valley area and (2) where the route crosses State Highway 146, it continues to parallel the proposed Interstate 515 route to where it intersects U.S. Highway 95/93. The alterantive then turns southeast and parallels the RMPP, BLM-Preferred Route southward out of the Las Vegas Valley area.

Because this route has been assessed in the RMPP Final EIS, 1981, it is classed as Category 1.

### Physical Resources

The topography along the route within the Las Vegas Valley area is flat to rolling.

### Natural Resources

Cultural Resources. This route may cross areas of high cultural resource sensitivity next to Las Vegas Wash.

### Land Use Plans and Concerns

The East Las Vegas Variation Route crosses several areas with local land use or administrative concerns, including a portion of Nellis Air Force Base near an explosives repository. The pipeline would cross under the haul road servicing the repository and the base. The Nellis Air Force Base Command Facilities Board would determine this pipeline's compatibility with Air Force base uses before approving or denying a permit.

The route closely follows Sloan's ditch, a flood control structure being rapidly encroached upon by residential development. Acquiring a right-of-way along the ditch might be difficult if not impossible. The route also closely follows Las Vegas Wash, for which a high-density recreation area has been proposed by the Clark County Department of Parks and Recreation. And a pipeline along this route might conflict with the newly approved mobile home park site and several subdivisions in Henderson. The route then follows proposed Interstate Highway 515, an alternative route suggested by the city of Henderson.

## **Navajo-McCullough Right-of-Way Route**

### Location and Description

The Navajo-McCullough 500kV transmission line and right-of-way passes through the eastern portion of the Las Vegas Valley area, including the city of Henderson. The existing right-of-way crosses Sunrise Mountain Natural Area, Rainbow Gardens, Las Vegas Wash (Clark County Wetlands Park), the city of Henderson, and part of the Bureau of Reclamation's 10,000 acres of withdrawn

land slated for transfer to the city of Henderson. The Navajo-McCullough transmission line has been assessed in a final EIS (1972) and built, and this route is classed as Category 1.

### Physical Resources

The terrain is flat along this section of the Navajo-McCullough transmission line right-of-way.

### Natural Resources

Cultural Resources. The route crosses Las Vegas Wash, an area of high cultural resource sensitivity.

### Land Use Plans and Concerns

The placing of the Aquatrain pipeline within or next to the Navajo-McCullough right-of-way through Henderson would conflict with an urban subdivision and the Henderson Planning Commission's plans for expansion. At this time, the city of Henderson would oppose any routes next to or within the Navajo-McCullough right-of-way through Henderson.

In 1981 the Henderson Planning Commission rejected IPP's request for a conditional use permit to build a high-voltage transmission line parallel to the Navajo-McCullough line because of potential interference with expansion plans involving surface use. The city of Henderson has filed a suit to prevent the expansion of the existing Navajo-McCullough powerline easement through the city of Henderson as proposed by IPP. Other future uses of the Navajo-McCullough route or IPP's suggested alternative (see Allen-El Dorado Route) through the city of Henderson would depend upon legal resolution of this issue and conformance with land use plans of the city of Henderson.

### Allen-El Dorado Route

#### Location and Description

The Allen-El Dorado Route was originally the Kaiparowits transmission line route. This alignment is most recently a suggested IPP alternative to passing through the the city of Henderson. The route parallels the Navajo-McCullough transmission line through Las Vegas Wash (Clark County Wetlands Park), the city of Henderson, and part of the Bureau of Reclamation's 10,000 acres of withdrawn land slated for transfer to the city of Henderson. The route then leaves the Navajo-McCullough right-of-way, crosses the west side of the River Mountains, and returns to the Navajo-McCullough right-of-way at Railroad Pass.

The Allen-El Dorado Alternative Route is classed as Category 2 because it was not environmentally assessed in the Allen-El Dorado EIS.

## Physical Resources

Building a pipeline over the west side of the River Mountains would be difficult because of the steepness of the terrain.

## Natural Resources

Wildlife. This route crosses 6 miles of desert bighorn sheep winter range on the west side of the River Mountains.

Cultural Resources. This route crosses Las Vegas Wash, an area of high cultural resource sensitivity.

## Land Use Plans and Concerns

The city of Henderson is in litigation with IPP over this route. Any future uses of the Kaiparowits-Allen-El Dorado-IPP Alternative Route would depend upon the outcome of this suit and resolution of any land use concerns of the city of Henderson. At this time the city of Henderson would oppose any pipelines next to or within the Navajo-McCullough right-of-way through Henderson.

## **West Las Vegas Route**

### Location and Description

This route begins at a point on the White Pine-Las Vegas Corridor 2, west of the Harry Allen power plant site. It enters the Las Vegas Valley area at its northeast corner, turns west, and crosses the north side of the Nellis Air Force Base Sheep Mountain Gunnery Range, now used as a small arms range. The route enters the north side of the city of North Las Vegas and passes to the north of the proposed water retention ponds, a proposed regional park, and a high-cost housing development and to the south of Floyd Lamb State Park. Between Buffalo Street and Durango Road it turns south crossing U.S. Highway 95 and private land. It leaves the Las Vegas Valley area to the south, turning southeast to intersect Interstate Highway 15. None of this route has been environmentally assessed, and it is thus classed as Category 2.

## Physical Resources

The terrain along the proposed West Las Vegas Route within the Las Vegas area is flat to rolling.

## Natural Resources

Visual Resources. A pipeline might be visible along certain stretches of Durango Road at its western end and where the pipeline would cross a portion of the alluvial fan formed from the Las Vegas Mountains to the north.

Cultural Resources. This route crosses an area of high cultural resource sensitivity- the north side of the city of North Las Vegas, which lies on an alluvial fan formed from the Las Vegas Mountains.

#### Land Use Plans and Concerns

Building the Aquatrain pipeline along the West Las Vegas Route through the Nellis Air Force Base Sheep Mountain Gunnery Range would require approval by the Nellis Air Force Base Command Facilities Board. The board would determine if the Sheep Mountain Gunnery Range is compatible with a pipeline before issuing or denying a permit.

The route crosses north of Craig Road, where North Las Vegas now has little or no development. Should the West Las Vegas Route be ultimately selected for pipeline construction, the North Las Vegas City Council would likely request compensation for land crossed by the pipeline within the city limits and zoned as "undeveloped."

#### Lake Mead National Recreation Area Route

##### Location and Description

From the intersection of State Highway 147 and the RMPP, BLM-Preferred Route, the Lake Mead National Recreation Area Alternative Route follows State Highways 147 and 146, entering the Las Vegas Valley area at the city of Henderson and continuing southwest to Interstate 15. The route has two alternatives: (1) Where it intersects U.S. Highway 95/93, it runs southeast, following the highway for 3 miles, intersecting the RMPP, BLM-Preferred Route, and following this route southward out of the Las Vegas Valley area. (2) Where the route intersects the RMPP, East Las Vegas Variation, it turns south and follows the route out of the Las Vegas Valley area.

Only those portions of the route that follow the RMPP, BLM-Preferred Route and the RMPP, East Las Vegas Variation Route have been assessed in a final EIS (RMPP, 1981) and have been classed as Category 1. Route segments following State Highways 147 and 146 and U.S. Highway 93/95 have not been environmentally assessed and are classed as Category 2.

##### Physical Resources

The terrain of the Lake Mead National Recreation Area Alternative Route is flat to rolling. The route crosses Las Vegas Wash within the recreation area.

##### Natural Resources

Visual Resources. A pipeline along this route would have the greatest visual impact within Lake Mead National Recreation Area.

## Land Use Plans and Concerns

The National Park Service has identified land use concerns for pipelines crossing the lands it administers: if a feasible route exists outside Lake Mead National Recreation Area, then that route is preferred. Because this route would entirely follow a highway, some land use constraints might limit the use of this highway right-of-way.

### **Rocky Mountain Pipeline Project Interconnect Route**

#### Location and Description

This interconnect, which was not assessed in the RMPP EIS, would be needed for the AQUATRAN Project to connect the RMPP, BLM-Preferred Route to the RMPP, East Las Vegas Variation Route near the Clark County sewage plant. The purpose of the interconnect is to provide a pipeline route for picking up municipal waste water from sewage plants and delivering it to the proposed Ivanpah power plant and existing Mohave power plant. None of the interconnect route has been environmentally assessed, and it is thus classed as Category 2.

#### Physical Resources

The topography along this proposed route is flat.

#### Natural Resources

Cultural Resources. Passing just north of Las Vegas Wash, this interconnect route could have some cultural resource sensitivity areas.

#### Land Use Plans and Concerns

Until a specific route through this area has been determined, land use concerns cannot be identified.

### **2.2.7 California Corridors**

#### **General Description**

Two sets of corridors were examined in California. The first set heads north-south, following the Colorado River. The second set trends east-west, crossing the California Desert Conservation Area (CDCA) to ports at Los Angeles, Long Beach, and Oxnard, and the oil terminal at Gaviota. One additional corridor was assessed in the Owens Valley.

Thirteen corridors were identified, most having been designated as energy and utility corridors and environmentally assessed in the CDCA Plan and EIS, 1980; the Rocky Mountain Pipeline Project (RMPP) EIS, 1981; and the Sohio Pipeline Project EIS, 1976. Potential corridor segments from outside the CDCA to the

oil terminal at Gaviota are expected to have environmental assessment work completed within the next 2 to 3 years with the EISs for the All-American Pipeline Project and the Getty Oil Company's proposed pipeline project.

## **Central Nevada-Long Beach Corridor**

### Location and Description

This corridor follows the RMPP, Central Nevada Corridor, which parallels U.S. Highways 6 and 395 southward through the Owens Valley. Between the south edge of Owens Lake and 10 miles west of China Lake, the corridor runs within the 2-mile-wide CDCA Corridor A. From 10 miles west of China Lake, the corridor parallels U.S. Highway 395 and intersects and parallels Interstate Highway 15 through Cajon Pass to the junction of Interstates 15 and 10. From Interstate Highway 10, the corridor follows the proposed Sohio pipeline corridor to the port of Long Beach.

Because this corridor has been assessed in several EISs, it is classed as Category 1. The corridor segment from the California-Nevada border to the south edge of Owens Lake was assessed in the RMPP EIS, 1981, as the Central Nevada Alternative. The corridor segment following Corridor A was assessed in the CDCA Plan and EIS, 1980. The corridor segment following U.S. Highway 395 from west of China Lake to its intersection with Interstate 15 near Victorville was assessed in the RMPP EIS but was not designated an energy and utility corridor in the CDCA Plan and EIS and would require a plan amendment. The corridor segment following Interstate 15 through Cajon Pass has been identified as an energy corridor by San Bernardino National Forest. The corridor segment following Interstate 10 to Long Beach was assessed as the Proposed Action Route in the Sohio Pipeline Project EIS, 1976.

### Physical Resources

The Central Nevada-Long Beach Corridor mostly follows the broad Owens and Antelope valleys, crosses Cajon Pass, and follows the coastal zone southward to Long Beach. This corridor crosses several fault zones, including the San Andres Fault at Cajon Pass.

### Natural Resources

Owens Valley is a politically sensitive watershed area where the corridor crosses deer and elk range. From south of Owens Lake to Victorville, the corridor passes through desert tortoise range. The desert tortoise is listed as "rare" on the California Game and Fish Department's endangered, threatened, and rare listing and "sensitive" on the BLM sensitive species listing.



## Land Use Plans and Concerns

Much of Owens Valley is owned by the Los Angeles Water and Power Department, and the valley is a major watershed drainage and corridor for carrying water to Los Angeles. From Owens Lake south to Victorville, the corridor crosses the CDCA. South of Cajon Pass, the corridor enters the Los Angeles Basin, a densely urbanized area.

### **Waucoba Road Corridor**

#### Location and Description

From the California-Nevada border east of Bishop, this corridor parallels Nevada State Highway 264, California State Highway 168, and Waucoba Road, which crosses Inyo National Forest. The corridor then follows the RMPP, Central Nevada Alternative Corridor to the south.

Neither the rights-of-way for Nevada State Highway 264 nor the portion of California State Highway 168 to Waucoba Road has been environmentally assessed, and this corridor is thus classed as Category 3.

#### Physical Resources

The corridor follows Fish Lake Valley in Nevada. In California, it passes between the southern edge of the White Mountains and the northern edge of the Inyo Mountains.

#### Natural Resources

Because the corridor parallels existing road rights-of-way, no major natural resource issues or concerns are likely to arise from pipeline construction.

## Land Use Plans and Concerns

The corridor crosses the north portion of the CDCA. Neither State Highway 168 nor Waucoba Road crossing the CDCA has been designated as an energy and utility corridor, and use of this corridor would therefore require a CDCA Plan amendment. Waucoba Road also crosses Inyo National Forest.

### **Westguard Road Corridor**

#### Location and Description

From the California-Nevada border east of Bishop, the Westguard Road Corridor parallels Nevada State Highway 264 and California State Highway 168 (Westguard Road), crosses Inyo National Forest, and follows the RMPP, Central Nevada Alternative to the south. Neither of these state highway rights-of-way has been environmentally assessed. This corridor parallels an existing road right-of-way and is thus classed as Category 3.

## Physical Resources

The corridor parallels Fish Lake Valley in Nevada and passes between the south end of the White Mountains and the north end of the Inyo Mountains in California. In Inyo National Forest, Westguard Road crosses a scenic pass and canyon area for 7 miles.

## Natural Resources

Because the corridor follows existing road rights-of-way, no major natural resource issues or concerns are expected.

## Land Use Plans and Concerns

The corridor crosses the northern portion of the BLM-administered CDCA. Crossing the CDCA, Westguard Road has not been designated as an energy and utility corridor, and the Westguard Road Corridor would thus require a CDCA Plan amendment. This corridor also crosses Inyo National Forest through 7 miles of a scenic canyon. The following Forest Service RARE II units lie along the corridor: 05060, 05061, and 05062.

## **Central Nevada-Oxnard Corridor**

### Location and Description

This corridor follows the RMPP, Central Nevada Alternative, which parallels U.S. Highways 6 and 395 south through the Owens Valley. At the southern edge of Owens Lake, the corridor enters and follows the 2-mile-wide CDCA Corridor A. The Central Nevada-Oxnard Corridor follows Corridor A (which parallels U.S. Highway 395) from the southern edge of Owens Lake to the junction of Corridor A with State Highway 14, 10 miles west of China Lake. The corridor then parallels State Highway 14 southwest to its junction with State Highway 126 and follows State Highway 126 west-southwest to the port of Oxnard.

The corridor segment that follows the RMPP, Central Nevada Alternative is classed as Category 1 because it has been environmentally assessed in the RMPP EIS, 1981. The segment following CDCA Corridor A from south of China Lake to Antelope Valley (at the CDCA's boundary) was environmentally assessed and designated as an energy and utility corridor in the CDCA Plan and EIS, 1980, and is also classed as Category 1. The corridor segment following California State Highways 14 and 126 is classed as Category 3.

## Physical Resources

South of China Lake, the corridor heads southwest along Fremont and Antelope valleys. Following State Highways 14 and 126, it also crosses broad valleys and rolling hills. Through southern California, it crosses several fault zones.

## Natural Resources

Because the corridor follows corridor segments that have already been environmentally assessed and that mostly parallel existing road rights-of-way (U.S. Highway 395 and State Highways 14 and 126), a pipeline along this corridor is expected to involve no major natural resource issues or concerns.

## Land Use Plans and Concerns

Following Corridor A, the Central Nevada-Oxnard Corridor passes through the CDCA. Paralleling State Highway 14, the corridor crosses private land being subdivided for future development as part of a northward expansion from the San Fernando Valley. State Highway 126 also crosses orange groves, where pipeline construction would have to minimize impacts to grove operators.

## **Gaviota Corridor**

### Location and Description

Beginning at Mojave, California, this corridor follows CDCA Corridor G west for 10 miles where it then follows the proposed route of the All-American Pipeline Project to Taft (southwest of Bakersfield) and then parallels the Getty Oil Company's proposed oil pipeline to Gaviota. This proposed oil pipeline would head west, paralleling State Highway 166 through Cuyama Valley; turn south, crossing 15 miles of Los Padres National Forest and using one of three alternatives; and continue south, following U.S. Highway 101 to Gaviota.

The portion of the Gaviota Corridor following Corridor G was environmentally assessed in the CDCA Plan and EIS and is thus classed as Category 1. Because no environmental assessment work has been completed between west of Mojave (outside the CDCA) and Gaviota, this corridor segment is classed as Category 3.

### Physical Resources

The corridor crosses the Tehachapi Mountains at Tehachapi Pass and heads west to Bakersfield. West of Taft, the corridor parallels the Cuyama Valley, crosses the Sierra Madre Mountains in Los Padres National Forest, and heads south to U.S. Highway 101. The corridor crosses several fault zones.

## Natural Resources

The corridor follows a portion of CDCA Corridor G and parallels existing road rights-of-way to Gaviota. A pipeline along this corridor is thus expected to involve no major natural resource concerns.

## Land Use Plans and Concerns

Following Corridor G, the Gaviota Corridor passes through the CDCA. In addition, the corridor passes through 15 miles of Los Padres National Forest and crosses portions of RARE II units 114, 117, and 118. Alternative corridors, also crossing 15 miles of Los Padres National Forest, cross RARE II units 115 and 116.

## **Blythe-Long Beach Corridor**

### Location and Description

From the proposed Blythe power plant, this corridor heads west along the 2- to 4-mile wide CDCA Corridor K. Corridor K follows Interstate Highway 10 and ends in the Banning-San Gorgonio Pass area. From this point, the Blythe-Long Beach Corridor heads west, following the proposed Sohio pipeline corridor to the port of Long Beach.

The entire corridor is classed as Category 1 because the combined environmental assessment in two EISs has covered all of the corridor's length. The CDCA Plan and EIS, 1980, designated Corridor K as an energy and utility corridor. The corridor segment from west of the Banning-San Gorgonio Pass area to Long Beach was assessed in the Sohio Pipeline Project EIS, 1976.

### Physical Resources

Following Corridor K, the Blythe-Long Beach Corridor crosses the Chuckwalla and Coachella valleys and San Gorgonio Pass. West of this pass, the corridor crosses the coastal zone of the Los Angeles Basin. The corridor crosses several fault zones, including the San Andreas Fault near Banning.

### Natural Resources

Because the corridor follows Interstate Highway 10 along Corridor K and the Sohio pipeline route, few major natural resource concerns are expected. Pipeline construction would need to mitigate adverse impacts to desert tortoises within Corridor K, and significant cultural resources are also known to occur along Corridor K.

## Land Use Plans and Concerns

Following Corridor K, the Blythe-Long Beach Corridor passes through the CDCA. This corridor also crosses the Morongo Indian Reservation in the Banning-San Gorgonio Pass area. In the Los Angeles Basin, pipeline construction would need to mitigate urban concerns.

## Blythe-Mexico Corridor

### Location and Description

From 5 miles west of Blythe, California, this corridor heads south, following State Highway 78 within the 2-mile wide CDCA Corridor J to 5 miles west of Yuma, Arizona, at the California-Mexico border. The Blythe-Mexico Corridor is classed as a Category 1 because it follows Corridor J, a designated energy and utility corridor that was environmentally assessed in the CDCA Plan and EIS, 1980.

### Physical Resources

For its entire length, Corridor J follows the lower Colorado River Basin.

### Natural Resources

A pipeline is not expected to create major natural resource concerns because it would lie within CDCA Corridor J.

### Land Use Plans and Concerns

No major land use concerns are expected because Corridor J has been environmentally cleared for future utilities. Pipeline construction and a temporary labor force, however, might indirectly affect the Imperial National Wildlife Refuge and Fort Yuma Indian Reservation, east of Corridor J along the Colorado River.

## Ivanpah-Long Beach Corridor 1

### Location and Description

This corridor follows the 3-mile-wide CDCA Corridor BB along Interstate Highway 15 between Ivanpah Dry Lake at the California-Nevada border and Yermo, California. From Yermo to south of Victorville, Corridor BB ties into CDCA Corridor D, which also parallels Interstate 15. The corridor parallels Interstate 15 through Cajon Pass and intersects and follows Interstate 10 west along the proposed Sohio pipeline corridor to the port of Long Beach.

The corridor's entire length is classed as Category 1 because all corridor segments have been either designated as energy and utility corridors through land use planning or have been environmentally assessed. Both Corridors BB and D are designated energy and utility corridors that have been environmentally assessed in the CDCA Plan and EIS, 1980. Interstate 15 through Cajon Pass has been designated an energy corridor by San Bernardino National Forest. The corridor segment following Interstate 10 was environmentally assessed in the Sohio Pipeline Project EIS, 1976.

## Physical Resources

Corridor BB parallels Interstate 15 across the California desert, following a constant level grade at Mountain Pass, west of Ivanpah Dry Lake. Corridor D also follows a constant level grade, traveling through Cajon Pass and into the Los Angeles Basin to Long Beach. The corridor segment crossing Cajon Pass to Interstate 10 crosses several active fault zones, most notably the San Andreas Fault.

## Natural Resources

Because all of the corridor follows Interstate Highways 10 and 15, no major natural resource concerns are expected to result from pipeline construction. Corridors BB and D cross desert tortoise habitat, but both corridors have been environmentally assessed.

## Land Use Plans and Concerns

Both Corridors BB and D lie within the CDCA. The corridor segment following the proposed route of the Sohio Pipeline Project crosses the densely populated and urbanized Los Angeles Basin, where a pipeline would require close consultation and coordination with county and local planning offices.

## **Ivanpah-Long Beach Corridor 2**

### Location and Description

This corridor is similar to Ivanpah-Long Beach Corridor 1, except for the segment between Ivanpah Dry Lake and Yermo, which follows CDCA Corridor D. Corridor D parallels Corridor BB to the southwest but runs 10 miles north of Corridor BB.

The entire corridor is classed as a Category 1 because all segments have either been designated as energy and utility corridors through land use planning or have had environmental assessment work completed.

### Physical Resources

Between the Ivanpah proposed power plant site and Yermo, Corridor D runs 6 miles to the north of Corridor BB. Corridors D and BB, however, follow similar level terrain across the California desert. For the physical resources of the remaining portion of Ivanpah-Long Beach Corridor II, see the discussion of Ivanpah-Long Beach Corridor 1.

### Natural Resources

The discussion of the natural resources and land use plans and concerns of Ivanpah-Long Beach Corridor 1 also applies to Ivanpah-Long Beach Corridor II.

## **Corridor G**

### Location and Description

CDCA Corridor G is a major east-west energy and utility corridor across the Mojave Desert. From the California-Nevada border, 10 miles south of Needles, this 2-mile-wide corridor heads west, running south of Interstate Highway 40. At Ludlow, the corridor continues west, following Interstate Highway 40 to Barstow and State Highway 58 from Barstow to Mojave. All of Corridor G is classed as Category 1 because it has been designated as an energy and utility corridor in the CDCA Plan and EIS.

### Physical Resources

Corridor G crosses several dry lake beds and valley desert terrain but avoids the main mountain ranges in the California desert.

### Natural Resources

Pipeline construction along this corridor should involve no major natural resource concerns because this corridor has been environmentally cleared through its designation as a energy and utility corridor. The corridor does, however, cross desert tortoise habitat and pass near known cultural resource sites.

### Land Use Plans and Concerns

Corridor G passes through the CDCA.

## **Corridor H**

### Location and Description

Corridor H follows CDCA Corridor H. It begins near Essex, California, and parallels an unnamed San Bernardino County road westward, passing by the towns of Amboy, Bagdad, and Ludlow. From Ludlow, the corridor parallels Interstate Highway 40 to the west and southwest, and passes Redman Mountain and Lucern Valley to the Cajon Summit area. Corridor H is 2 miles wide and is an alternative to Corridor G between Essex and Ludlow. The entire corridor is classed as Category 1 because it has been designated as an energy and utility corridor in the CDCA Plan and EIS.

### Physical Resources

Corridor H crosses rolling desert terrain and several valleys.

### Natural Resources

No major natural resource concerns or issues are expected because the 2-mile-wide corridor has been environmentally cleared through its designation as an energy and utility corridor. This corridor does, however, cross desert tortoise habitat and pass near known cultural resource sites.

### Land Use Plans and Concerns

Corridor H crosses entirely within the CDCA.

### Highway 95-Corridor J

#### Location and Description

From the RMPP, BLM-Preferred Corridor at the California-Nevada border northwest of Needles, this corridor heads south, following CDCA Corridor F and U.S. Highway 95, going between the Whipple and Turtle Mountains to Vidal Valley, 5 miles west of Parker Dam. There it intersects and follows CDCA Corridor J to the proposed power plant site at Blythe, California.

The corridor segment following U.S. Highway 95 is classed as Category 3 because it has not been environmentally assessed. The segments following CDCA Corridors F and J are classed as Category 1 because these corridors have been designated as energy and utility corridors in the CDCA Plan and EIS.

### Physical Resources

Following U.S. Highway 95, the corridor crosses portions of Chemehuevi and Vidal valleys and abuts the Turtle Mountains to the west and the Whipple Mountains to the east. Following Corridor J south of Vidal Junction, this corridor heads down the Colorado River Basin to Blythe.

### Natural Resources

The corridor passes through desert tortoise habitat and areas of high-value cultural resources, especially in the Chemehuevi Valley and near Blythe. Significant prehistoric intaglios lie east of the corridor.

### Land Use Plans and Concerns

Both U.S. Highway 95 and Corridor J pass within the CDCA. The route of the annual "Parker 400" off-road vehicle race crosses U.S. Highway 95 at two points along the corridor. This event attracts up to 16,000 spectators.



## **Corridor E**

### Location and Description

This corridor follows CDCA Corridor E south from the California Nevada border. It passes through Ward Valley and intersects Interstate Highway 10 south of Joshua Tree National Monument. The entire corridor is classed as Category 1 because it has been designated as an energy and utility corridor in the CDCA Plan and EIS.

### Physical Resources

Corridor E heads south within the broad confines of Ward Valley. The valley is abutted by the Old Woman Mountains to the west and the Turtle Mountains to the east.

### Natural Resources

Pipeline construction should create no major natural resource concerns because the 3-mile wide corridor has been environmentally cleared through its designation as an energy and utility corridor. The corridor does cross desert tortoise habitat and passes near known cultural resource sites.

### Land Use Plans and Concerns

Corridor E lies within the CDCA.

## **Corridor I**

### Location and Description

This corridor follows CDCA Corridor I southeast from Interstate 40, 20 miles west of Needles, California, along the Chemehuevi Valley to the California-Arizona border. This 2-mile wide corridor crosses U.S. Highway 95. The entire corridor is classed as Category 1 because it has been designated as an energy and utility corridor in the CDCA Plan and EIS, 1980.

### Physical Resources

Corridor I heads southeast through the Chemehuevi Valley. The valley is abutted by the Sacramento and Chemehuevi Mountains to the north and the Whipple Mountains to the south.

## Natural Resources

A pipeline along this corridor should cause no major natural resource concerns because the corridor has been environmentally cleared through its designation as an energy and utility corridor. The corridor, however, crosses desert tortoise habitat and passes near known cultural resource sites.

## Land Use Plans and Concerns

Corridor I lies within the CDCA.

## **Contingent Corridor Y**

### Location and Description

Contingent Corridor Y follows CDCA Contingent Corridor Y from the California-Arizona border near Parker, Arizona to east of Joshua Tree National Monument at the junction of State Highways 62 and 177. This corridor parallels California State Highway 62 and the Colorado River Aqueduct. Because Contingent Corridor Y has not been environmentally assessed and follows a road and aqueduct right-of-way that has not been environmentally assessed, it is classed as Category 3.

### Physical Resources

Contingent Corridor Y parallels California State Highway 62 and the Colorado River Aqueduct through the Vidal and Rice Valleys. To the north of the Corridor lie the Whipple, Turtle, and Iron Mountains and to the south the Riverside and Granite Mountains.

## Natural Resources

This 2-mile-wide corridor crosses desert tortoise habitat and passes near known cultural resource sites.

## Land Use Plans and Concerns

Contingent Corridor Y lies within the CDCA.

## **Contigent Corridor S**

### Location and Description

From Corridor K near San Gorgonio Pass, this corridor follows CDCA Contigent Corridor S, heading north and northwest to intersect Corridor H near Lucerne Valley. Because Contigent Corridor S has not been environmentally assessed, it is classed as Category 3.

### Physical Resources

The corridor begins in the rolling foothills east of the San Bernardino Mountains and heads north into valley desert terrain. It crosses scattered roads, rural development, and dry lake beds.

### Natural Resources

This 2-mile-wide contingent corridor passes through potential Golden Eagle foraging range, possible desert tortoise habitat, and areas of unusual plant assemblages.

### Land Use Plans and Concerns

Contigent Corridor S lies within the CDCA.

## **Corridor C**

### Location and Description

Corridor C follows CDCA Corridor C from Victorville west to its intersection with State Highway 14 near Vincent. This corridor parallels an existing 500kV transmission line.

The entire corridor is classed as Category 1 because it has been environmentally assessed and designated as an energy and utility corridor in the CDCA Plan and EIS, 1980.

### Physical Resources

Corridor C parallels the California Aqueduct and crosses valley desert terrain and scattered highways, utilities, and rural homes. It avoids the San Gabriel Mountains to the south.

### Natural Resources

This 2-mile-wide corridor crosses potentially valuable oil and gas lease areas.

### Land Use Plans and Concerns

Corridor C lies within the CDCA.



**CHAPTER 3**  
**PHASE II RESULTS**



## Chapter 3 Phase II Results

### Introduction

Phase II of the Aquatrain Corridor Study involved a two-part analysis: a conceptual analysis and a detailed analysis.

The main objective of the conceptual corridor analysis (Section 3.1) was to identify corridors connecting input and output points (coal, carbon dioxide, and saline water sources, proposed and existing power plant sites, and potential port facilities). The corridors analyzed were divided into two categories: (1) corridors recommended for further consideration during EIS scoping and (2) corridors recommended to be eliminated from further study. The conceptual analysis also provided the rationale for recommending or eliminating each corridor segment between input and output points.

Because of urbanization and land use concerns as well as environmental sensitivities, this Corridor Study identified routes rather than corridors crossing the Las Vegas Valley area. These routes are discussed in Section 3.1.

The main objective of Section 3.2, Detailed Corridor Analysis, is to analyze 1-mile-wide corridors between Green River, Utah, and the IPP power plant near Delta, Utah. (See Map 1-1, Potential Corridors--Wyoming, Colorado, and Utah). These corridors are (1) U.S. Highway 6, (2) Cedar Mountain, (3) San Rafael Swell, (4) Huntington-Mill Creek, (5) Mountain Fuels, (6) Huntington-Mount Pleasant, (7) Cottonwood Canyon, (8) Salina Canyon-Leamington Pass, (9) Salina Canyon-Scipio Pass, (10) Price Canyon, and (11) Ephraim. Table 3-1, Aquatrain Corridor Assessments (map pocket), assesses these corridors on the basis of engineering and environmental screening criteria using a matrix format.

### 3.1 CONCEPTUAL CORRIDOR ANALYSIS

#### 3.1.1 Big Sandy Saline Water Source to Jim Bridger Power Plant

#### RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration only one corridor to connect the saline water source at the Big Sandy irrigation area and the Jim Bridger power plant in Wyoming.

This corridor, which follows the **Big Bend Saline Water Corridor**, heads southeast from the Big Sandy irrigation area to the Jim Bridger power plant, a distance of 44 miles across rolling sagebrush hills (Map 1-1; corridor segment W5 to W1). This corridor offers the most direct route between the two points.

## ELIMINATED CORRIDORS

No other corridors were considered in this area. (This Corridor Study examines a 10-mile-wide corridor, which could accommodate several corridors that could be assessed in an EIS.)

### 3.1.2 Riley Ridge Carbon Dioxide Gas Source to Axial Basin Coal Source

#### RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration one corridor to connect the carbon dioxide gas source at Riley Ridge in Wyoming and the coal producing area in the Axial Basin of Colorado.

Beginning at the American Quasar and Exxon proposed carbon dioxide gas pipeline tie-in point southwest of Rock Springs, Wyoming, this corridor follows the Riley Ridge CO<sub>2</sub> Corridor, paralleling the existing Mountain Fuels Natural Gas Pipeline right-of-way southeast to the Colorado-Wyoming border where it then follows the Power Wash-Little Snake Corridor to the Bald Mountain Cutoff Corridor and the town of Maybell. It then follows a portion of the Irish Canyon Corridor from Maybell to the Axial Basin coal source (Map 1-1; corridor segment W4 to CO2 via CO1). The Aquatrain pipeline would cause no major environmental problems along this corridor.

## ELIMINATED CORRIDORS

The following two alternative corridors were eliminated from further consideration.

### Corridor

### Reason(s) Not Recommended in Phase II

**Black Butte-Alkali Wash-430 Corridor** from Vermillion Creek to the Wyoming-Colorado border and the portion of the **Irish Canyon Corridor** from the state line to Maybell.

This corridor does not go directly to the coal source, and several environmental and political problems would occur if a pipeline is proposed for its Irish Canyon sector.

### 3.1.3 Jim Bridger Power Plant to Axial Basin Coal Source

#### RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration two main corridors to connect the Jim Bridger power plant in Wyoming to the Axial Basin coal source in Colorado.



1. One corridor heads south from the Jim Bridger power plant, following the Hallville-Black Butte-Kinney Rim Corridor along a county road through Black Buttes to Alkali Wash, along Kinney Rim and south along Alkali Creek to the Colorado-Wyoming border. This corridor then heads southeast along the Powder Wash-Little Snake Corridor, following Moffat County Road 13 to the Little Snake River Road (Moffat County Road 27), continues south along Moffat County Road 27 to its intersection with Moffat County Road 28, follows the Bald Mountain Cutoff Corridor along Moffat County Road 28 south to Maybell, Colorado, and follows a portion of the Irish Canyon Corridor along Moffat County Road 12 south to its junction with an unnumbered county road along the Danforth Hills to the Axial Basin coal source (Map 1-1; corridor segment W1 to C02 via C01 and W2).
2. The second corridor heads south from the Jim Bridger power plant, following the Shell Creek Corridor to Powder Wash, Colorado, where it intersects the Powder Wash-Little Snake Corridor. This corridor then follows the same corridors as 1 above (Map 1-1; corridor segment W1 to C02 via W3 and C01).

Both of these corridors follow existing county road rights-of-way through rolling sagebrush hills and a few hilly, mountainbrowse areas. A pipeline along neither of these routes would involve no major environmental or engineering concerns.

## ELIMINATED CORRIDORS

### Corridor

### Reason(s) Not Recommended in Phase II

Interstate 80-Highway 430 Corridor and Irish Canyon Corridor

Being longer than the recommended corridors, this corridor does not offer a direct route. It also passes through Irish Canyon, a politically and environmentally sensitive area.

Interstate 80-Dad Cutoff Corridor and Highway 789 Corridor

Being much longer than the recommended corridors, this corridor does not offer a direct route to the Axial Basin. Moreover, a pipeline would pose engineering problems in Williams Fork Canyon near Hamilton, Colorado.

A portion of the Powder Wash-Little Snake Corridor between the Bald Mountain Cutoff Corridor and Meeker

Being much longer than the recommended corridors, this corridor offer no direct route to the Axial Basin. It passes near the politically sensitive Cross Mountain WSA and the proposed Juniper-Cross Mountain Dam. In addition, a pipeline would pose potential engineering problems in the Little Snake River Canyon.

### 3.1.4 Axial Basin Coal Source to Rifle, Colorado

#### RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration two corridors to connect the Axial Basin coal source and Rifle, Colorado.

1. From Axial this corridor follows the **Yellow Jacket-Highway 789 Corridor** along Moffat County Road 51 southeast to its intersection with Rio Blanco County Road 10 (Yellow Jacket Pass Road). The corridor then follows County Road 10 to its junction with Colorado Highway 789 and follows the **Meeker to Rifle Corridor** to Rifle (Map 1-1; corridor segment C02 to C08 via C04, C06, and C07). The corridor segment from C05 to Rifle might face political problems with establishing another utility corridor along State Highway 789 from south of Meeker to Rifle.
2. From Axial this corridor follows the **Meeker to Rifle Corridor** to Meeker but continues south along the **Flag Creek Corridor** to Rifle (Map 1-1; corridor segment C02 to C08 via C04, C05, and C07). No major environmental problems would result from a pipeline along this corridor, which might be politically more acceptable to residents of Rio Blanco County than the other recommended corridor.

#### ELIMINATED CORRIDORS

##### Corridor

##### Reason(s) Not Recommended in Phase II

##### **Nine-Mile Corridor**

A pipeline would face severe environmental problems (surface water, slumping soils, riparian zones) along the entire right-of-way.

A portion of the **Strawberry Creek-Highway 789 Corridor** from its beginning to its intersection with Moffat County Road 26

Adds unneeded length to the pipeline.

### 3.1.5 Glenwood-Dotsero Springs Saline Water Sources to Rifle, Colorado

#### RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration two corridors and one variation to connect the Glenwood-Dotsero Springs saline water sources near the Eagle County-Garfield County line and Rifle.

1. From the Glenwood-Dotsero Springs saline water sources, this corridor follows the **Glenwood Canyon Corridor**, which trends west along Interstate 70 through Glenwood Canyon and on to Rifle, a distance of

41 miles (Map 1-1; corridor segment C09 to C08 via C017). Major engineering problems would be posed by a pipeline passing through Glenwood Canyon. Moreover, sections of Interstate 70 have already been built at both ends of the canyon, and it may be too late to design a pipeline into the final section in the canyon. The narrowness of the canyon might also preclude pipeline construction through it.

2. From the Glenwood-Dotsero Springs saline water sources, this corridor follows the **Gypsum-Cottonwood Pass Corridor**, which heads east along Interstate 70 to Gypsum, where it turns south, following Eagle County Road 10-A over Cottonwood Pass and down Castle Creek (Garfield County Road 107) to its junction with Colorado State Highway 82. The corridor then crosses the Roaring Fork River and heads north to Interstate 70 west of Glenwood Springs (crossing the Colorado River near Funston). From this point, the corridor follows Interstate 70 west to Rifle (Map 1-1; corridor segment C09 to C08 via C010, C011, and C017).

Near the top of Cottonwood Pass, areas subject to slope instability would cause some construction problems. In addition, the pipeline would have to make two major river crossings (Roaring Fork and Colorado rivers). Environmental and engineering assessments have been written for this corridor as the only alternative to the Interstate 70 route through Glenwood Canyon.

3. From the Glenwood-Dotsero Springs saline water sources, this corridor variation follows the **Cottonwood Pass Variation Corridor**, which heads southeast along Cottonwood Creek to Cottonwood Pass Road (Eagle County Road 10-A), 9 miles southwest of Gypsum (Map 1-1; corridor segment C09 to C08 via C011 and C017). A pipeline through this corridor would pose no apparent environmental or engineering problems, and this corridor is 9 miles shorter than the Gypsum-Cottonwood Pass Corridor.

#### **ELIMINATED CORRIDORS**

No other corridors were considered in this area.

#### **3.1.6 Rifle, Colorado to Green River, Utah**

#### **RECOMMENDED CORRIDORS**

The Corridor Study recommends for further consideration one main corridor to connect Rifle and Green River. Potential variations exist, however, for segments of the corridor. The corridor essentially follows Interstate 70 between the two points.

One corridor segment and two variations connect Rifle and the Colorado-Utah state line:

The proposed 83-mile-long corridor follows the **Rifle-Interstate Highway 70 Corridor**, which follows Interstate Highway 70 west from Rifle to the Colorado-Utah state line (Map 1-1; corridor segment C08 to C016 via C012 and C014). This corridor offers the most direct route between the two points via an existing highway corridor.

- a. This variation follows the **De Beque-Salt Wash Corridor**, which follows Interstate 70 west from Rifle to De Beque (38 miles). It then heads almost due west up Roan Creek on Garfield County Road 109, continues west up the Dry Fork of Roan Creek on Garfield County Road 200, and follows the McKay Fork on Garfield County Road 232. The corridor crosses the divide, heads west down Coal Gulch to Big Salt Wash, and heads south along Mesa County Road 116 to the Highline Canal. It then travels cross-country to the west and south to intersect Interstate 70 west of Mack, Colorado and follows Interstate 70 to the Colorado-Utah state line (Map 1-1; corridor segment C08 to C016 via C012 and C015). This route was selected because it offers an alternative to De Beque Canyon.
- b. This variation follows the **Rifle-Collbran Corridor**, which trends south out of Rifle on Garfield County Road 330 to the head of Mamm Creek. From there it heads west along Buzzard Creek on Mesa County Road 82 and continues west along Mesa County Road 303 to Collbran and Mesa County Road 330 to its junction with State Highway 65. The corridor follows Highway 65 to the head of Big Beaver Creek and then heads cross-country to the southwest to Whitewater Creek and down Whitewater Creek to U.S. Highway 50. Finally, the corridor trends northwest along U.S. Highway 50 to its intersection with Interstate 70 west of Grand Junction and heads west to the Colorado-Utah state line (Map 1-1; corridor segment C08 to C016 via C013 and C014). This variation was also selected because it offers an alternative to De Beque Canyon.

One corridor connects the Colorado-Utah border and Green River, Utah:

This corridor, the **Grand Resource Area Corridor** (Map 1-1; corridor segment C016 to U1), parallels Interstate Highway 70. It is the only corridor recommended for further study because it is the only utility corridor identified in the BLM Grand Resource Area Management Plan and EIS, 1983, that meets project needs.

No other corridors were considered in this area.

### 3.1.7 **Green River, Utah to IPP Power Plant**

These corridors are discussed in the detailed corridor analysis in Section 3.2.

3.1.8 IPP Power Plant to White Pine Proposed Power Plant Site at North Steptoe Valley

**RECOMMENDED CORRIDORS**

The Corridor Study recommends for further consideration one main corridor to connect the IPP power plant and the proposed White Pine power plant site at North Steptoe Valley.

This corridor heads west from the IPP plant to the Utah-Nevada border following the **IPP-Northern Nevada Corridor**, which was originally studied for a potential transmission line for the IPP-Lynndyl alternative site. The corridor crosses the Utah-Nevada border and follows the **IPP-White Pine Corridor** to the White Pine proposed plant site at North Steptoe Valley (Maps 1-1 and 1-2; corridor segment U14 to N1 via U24, N5, and N2). The BLM study team recommended this corridor because a pipeline through it would involve few if any resource conflicts or constraints.

**ELIMINATED CORRIDORS**

No other corridors were considered in this area.

3.1.9 IPP Power Plant to White Pine Alternative Power Plant Site at Butte Valley

**RECOMMENDED CORRIDORS**

The Corridor Study recommends for further consideration one main corridor to connect the IPP power plant and the White Pine alternative power plant site at Butte Valley.

This corridor follows the **IPP-Gonder Corridor** to the Utah-Nevada border, the **Rocky Mountain Pipeline Project, Central Nevada Corridor** along U.S. Highway 6 to the **White Pine-Las Vegas Corridor 2** west of Ely to the **White Pine Power Plant EIS-White River Valley Corridor** to the White Pine alternative power plant site at Butte Valley (Maps 1-1 and 1-2; corridor segment U14 to N7 via U24, N6, N3, N4, and N34).

A pipeline through this corridor would involve land use planning constraints on the Humboldt National Forest in the Connors Pass segment of the corridor because it would cross an avoidance area.

**ELIMINATED CORRIDORS**

Corridor

Reason(s) Not Recommended in Phase II

This corridor follows the **West Salt Lake Corridor** south from the IPP plant to its intersection with the **Central Nevada Corridor**, which it then follows to the Utah-Nevada state line.

This corridor is longer than the corridor between the IPP power plant and the White Pine alternative power plant site at Butte Valley.

3.1.10 IPP Power Plant to White Pine Alternative Power Plant Site at Spring Valley

RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration one corridor to connect the IPP power plant and the White Pine alternative power plant site at Spring Valley.

This corridor follows the IPP-Gonder Corridor, paralleling the corridor proposed as an IPP transmission line route between the IPP power plant and the Utah-Nevada border. From the Utah-Nevada border to the White Pine alternative power plant site at Spring Valley, this corridor follows the Rocky Mountain Pipeline Project, Central Nevada Corridor along U.S. Highway 6 (Maps 1-1 and 1-2; corridor segment U14 to N10 via U24 and U30).

This corridor was chosen because all portions have been environmentally assessed, and a pipeline would encounter no known land use planning constraints or major environmental conflicts if it avoids the WSAs in western Utah.

ELIMINATED CORRIDORS

Corridor

Reason(s) Not Recommended in Phase II

This corridor follows the **West Salt Lake Corridor** south from the IPP plant to its intersection with the **Central Nevada Corridor**, which it then follows to the Utah-Nevada state line.

This corridor is longer than the corridors being recommended for further study, passes through similar terrain, and involves similar resource conditions.

The portion of the **Wheeler Peak-White Pine Corridor** from where it deviates from the **Rocky Mountain Pipeline Project, Central Nevada Corridor** between the Utah-Nevada state line and the White Pine alternative power plant site at Spring Valley.

The terrain along this corridor is not suitable for pipeline construction.

Portions of the **Sigurd-Gonder Corridor** between the **West Salt Lake Corridor** 4 miles north of Holden, Utah, and its intersection with the **IPP-Gonder Corridor**.

This corridor fails to meet project needs by going in an easterly direction.

### 3.1.11 IPP Power Plant to Harry Allen Proposed Power Plant

#### RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration one corridor and two variations to connect the IPP power plant and the proposed Harry Allen power plant. The corridor follows corridors proposed by the RMPP.

This corridor follows the **West Salt Lake Corridor** south to its intersection with the RMPP, **Sevier-Escalante Desert Corridor** east of Delta, Utah (Map 1-1; corridor segment U14 to U23).

The corridor appears to be compatible with land use planning, and a pipeline would face no major environmental concerns.

Two corridors connect Newcastle, Utah with the above intersection point (U23).

- a. Paralleling the proposed RMPP, **Sevier-Escalante Desert Corridor**, from Delta to Newcastle (Map 1-1; corridor segment U23 to U26 via U27).
- b. Paralleling the proposed **West Salt Lake Corridor**, from Delta to the **RMPP Corridor** near Fillmore, Utah and that following the **RMPP Corridor** to Newcastle (Map 1-1; corridor segment U23 to U26 via U22 and U25).

Both corridors follow proposed pipeline corridors through a broad valley. No known major environmental concerns or land use constraints would conflict with building a pipeline along these segments.

Only one corridor connects Newcastle and the Harry Allen power plant.

Paralleling the **RMPP Corridor** between Newcastle and the Utah-Nevada border and the **Rocky Mountain Pipeline Project, BLM-Preferred Corridor** from the border to the Harry Allen power plant (Maps 1-1 and 1-2; corridor segment U26 to N15 via N14, N17, and N16).

The corridor follows the proposed RMPP Corridor, and a pipeline would not conflict with land use plans if it is included in the probable corridor through Dixie National Forest and the 3,000-foot-wide corridor through the Moapa Indian Reservation. The only major environmental concern would be the pipeline's crossing of desert tortoise habitat and areas of known cultural resources.

#### ELIMINATED CORRIDORS

No other corridors were considered in this area.

3.1.12 Sage, Wyoming, to Harry Allen Proposed Power Plant

RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration one main corridor to connect southwest Wyoming to the Harry Allen proposed power plant in Nevada. The corridor follows the RMPP Corridor, as follows.

This corridor parallels the RMPP Corridor, which is based on the RMPP, Proposed Action Corridor, but includes the West Kamas Valley Variation, the Mill Creek Variation, and the Daniels Canyon Variation II. The corridor extends from Sage, Wyoming to the Harry Allen proposed power plant (Maps 1-1 and 1-2; corridor segment W6 to N15 via U10, U11, U12, U13, U20, U21, U25, U26, N17, and N16).

A pipeline through this corridor would most likely involve some land use planning constraints if it parallels the RMPP Corridor. If the RMPP is built before the AQUATRAN Project, portions of limited corridors might become restricted or unusable by Aquatrain, such as the segment between U.S. Highway 6 and Indianola, Utah, or the Salt Creek Canyon segment east of Nephi, Utah. Additionally, Uinta National Forest will probably not designate a corridor between Strawberry Reservoir and U.S. Highway 6. The only major environmental constraints for a pipeline would be the soil stability problem within a zone near U.S. Highway 6 (Thistle Slide area, as an example), recreation and visual values in the Strawberry Reservoir area, and critical desert tortoise habitat in extreme southwest Utah.

ELIMINATED CORRIDORS

Corridor

Reason(s) Not Recommended in Phase II

A portion of the RMPP, West Salt Lake Corridor from its origin in Wyoming to the IPP power plant.

Soils and construction concerns along the west portion of the corridor and the added length over that of the RMPP Corridor.

Following the Southwestern IPP Corridor from Summit, Utah southwest to the Utah-Arizona border and then following the Allen-Warner Valley Corridor to the Harry Allen proposed power plant.

Passes near the Virgin River Canyon, where a pipeline would cause environmental impacts and involve excessive construction costs.

West IPP Corridor southeast of Latimer, Utah, to the Lincoln Substation in Nevada.

Adds unneeded length to pipeline.

San Pete Valley Corridor

Adds unneeded length to pipeline.



3.1.13 **White Pine Power Plant Sites at North Steptoe Valley, Butte Valley, and Spring Valley to Potential Export Sites at Los Angeles and Long Beach, Oxnard, and Gaviota**

**RECOMMENDED CORRIDORS**

The Corridor Study recommends for further consideration one corridor to connect potential sites for the White Pine power plant and the south shore of Owens Lake.

This corridor follows the **RMPP, Central Nevada Corridor**, from the Spring Valley site along U.S. Highway 6 across central Nevada, to Bishop, California. At Bishop the corridor follows the **Central Nevada-Long Beach Corridor** along U.S. Highway 395 through the Owens Valley to the south shore of Owens Lake (Map 1-2; corridor segment N6 to CA2 via N3, N4, N8, and N35). See Section 3.1.14 for corridor connections to the North Steptoe Valley and Butte Valley sites.

This corridor segment follows a major portion of an EIS-assessed route (**RMPP, Central Nevada Corridor**), mostly over road rights-of-way, where a pipeline would pose fewer environmental problems than elsewhere.

South of Owens Lake, the corridor separates into three segments, each extending to a potential export site.

1. From the south shore of Owens Lake the corridor continues to follow the **Central Nevada-Long Beach Corridor** to the ports of Los Angeles and Long Beach. One segment follows designated energy and utility Corridor A, as identified in the California Desert Conservation Area (CDCA) Plan and EIS, 1980. This segment heads south, following the 2-mile-wide corridor to west of China Lake, where the segment parallels U.S. Highway 395 to Interstate 15 near Victorville. From Victorville the segment continues south, following Interstate 15 through Cajon Pass, merging with the proposed route of the Sohio Pipeline Project, and proceeding to the port of Long Beach (Map 1-2; corridor segment CA2 to CA6 via CA3, CA4, CA11, CA5, and CA10).

This corridor follows segments of designated energy and utility corridors, road rights-of-way, and corridor segments assessed in EISs. Energy and utility Corridor A was assessed in the CDCA Plan and EIS. The corridor paralleling U.S. Highway 395, west of China Lake to its junction with Interstate 15, however, is not a CDCA-designated energy and utility corridor and requires a CDCA Plan amendment. The segment following Interstate 15 through Cajon Pass has been designated an energy and utility corridor by San Bernardino National Forest. And the segment following the proposed Sohio pipeline to the port of Long Beach was assessed in the Sohio Pipeline Project EIS, 1976.

2. From the south shore of Owens Lake the corridor follows the **Central Nevada-Oxnard Corridor** to the port of Oxnard, following CDCA Corridor A. Outside the CDCA, the corridor follows California State Highways 14 and 126 to Oxnard (Map 1-2; corridor segment CA2 to CA13 via CA3, CA7, and CA12).

This corridor is being recommended for further consideration for EIS scoping because it follows designated energy and utility corridors and existing road rights-of-way. The corridor segment outside the CDCA, following State Highways 14 and 126 to Oxnard, crosses rolling hills and broad valleys, terrain that would reduce the environmental impacts of a pipeline. For 7 miles, however, State Highway 126 crosses orange groves, where pipeline construction would need to consider the concerns of grove operators.

3. From the south shore of Owens Lake to Gaviota, this corridor first follows the Central Nevada-Oxnard Corridor along CDCA Corridor A south to CDCA Corridor G west of Mojave. At this point the corridor follows the Gaviota Corridor west along CDCA Corridor G and the proposed pipeline route for the All American Pipeline Project to Taft, California. From Taft, the corridor follows Getty Oil Company's proposed pipeline route to Gaviota (Map 1-2; corridor segment CA2 to CA8 via CA3, CA7, CA17 and CA18).

Corridors A and G were environmentally assessed in the CDCA Plan and EIS. The corridor segment from west of Mojave (outside the CDCA) to Gaviota follows proposed pipeline corridors that are expected to be environmentally assessed in two EISs within the next 2 to 3 years (All-American Pipeline Project and Getty Oil Company Pipeline Project).

#### **ELIMINATED CORRIDORS**

##### Corridor

##### Reason(s) Not Recommended in Phase II

A portion of the Central Nevada-Highway 264 Corridor and the Westguard Road Corridor

A pipeline through the corridor segment along Westguard Road would conflict with the CDCA Plan and Inyo National Forest visual resource management objectives.

Waucoba Road Corridor crossing Inyo National Forest

A pipeline would conflict with the CDCA plan.

#### **3.1.14 White Pine Power Plant Sites at North Steptoe Valley, Butte Valley, and Spring Valley to the Harry Allen Proposed Power Plant Site**

#### **RECOMMENDED CORRIDORS**

The Corridor Study recommends for further consideration two main corridors and one alternative corridor to connect the White Pine proposed and alternative power plant sites at North Steptoe Valley, Butte Valley, and Spring Valley and the Harry Allen proposed power plant.

Three corridor segments extend from the White Pine proposed power plant site at North Steptoe Valley to U.S. Highway 6.

- a. Following a portion of the **Wheeler Peak-White Pine Corridor** along U.S. Highway 93 to U.S. Highway 6 (Map 1-2; corridor segment N1 to N3 via N2).

- b. Following **White Pine-Las Vegas Corridor 1** east, paralleling U.S. Highway 93 to State Highway 2, Highway 2 east to State Highway 893, and Highway 893 south through Spring Valley to U.S. Highway 6 (Map 1-2; corridor segment N1 to N6 via N2 and N5).
- c. Following the **White Pine-Las Vegas Corridor 2** from the White Pine power plant to U.S. Highway 6 (Map 1-2; corridor segment N1 to N4 via N34).

One corridor segment connects the White Pine alternative power plant site at Butte Valley to U.S. Highway 6:

Following the **White Pine Power Plant EIS-White River Valley Corridor** to U.S. Highway 6 (Map 1-2; corridor segment N7 to N35 via N34). This corridor segment follows a corridor assessed in the White Pine Power Plant Project EIS, 1983.

These corridor segments parallel existing road rights-of-way and planned corridors through broad valleys, and a pipeline along them would involve no known major environmental concerns. From U.S. Highway 6, the segments extend to the junction of State Highway 38 and U.S. Highway 93, south of Pahranaagat National Wildlife Refuge.

- d. Following **White Pine-Las Vegas Corridor 2**, this corridor parallels the BLM planned corridor to State Highway 38 and State Highway 38 to its junction with U.S. Highway 93 (Map 1-2; corridor segment N3 to N13 via N4, N8, and N31).
- e. Following **White Pine-Las Vegas Corridor 1** from U.S. Highway 6 to the junction of State Highway 38 and U.S. Highway 93 (Map 1-2; corridor segment N6 to N13 via N32).
- f. Paralleling the **White Pine Power Plant EIS-White River Corridor** from U.S. Highway 6 (Map 1-2; corridor segment N35 to N13 via N31).

These three corridor segments parallel existing road rights-of-way and planned corridors. Both State Highway 38 and U.S. Highway 93 are also designated utility and energy corridors in the BLM Ely District's Schell Resource Area Management Framework Plan, 1983, and cross broad north-south spanning valleys (White River and Pahranaagat valleys; and Lake, Dry, and Delamar valleys). Each corridor segment crosses either Pahranaagat Valley or Delamar Valley, areas having agricultural potential. These two agricultural valleys, however, would not be major obstacles if local concerns are carefully considered during pipeline construction. A portion of the corridor segment follows State Highway 38 through Pahranaagat National Wildlife Refuge.

An alternative segment that avoids Delamar Valley takes the following course:

- g. Following the **Cathedral Gorge-Meadow Valley Corridor** from the two-track jeep trail north of Caliente, the segment parallels U.S. Highway 93 to Caliente and then the Union Pacific Railroad right-of-way and Lincoln County maintained roads 4230 and 4299 along

Meadow Valley Wash. Near Moapa, Nevada, the segment intersects the Allen-Warner Valley Corridor to the Harry Allen proposed power plant site (Map 1-2; corridor segment N32 to N15 via N14, N17, and N16).

This corridor segment provides an alternative for avoiding the agricultural lands of the Delamar Valley. The corridor follows an existing roadway and railroad rights-of-way along Meadow Valley Wash. South of Carp, Nevada, the corridor segment passes between two BLM WSAs: Meadow Valley Range and Mormon Mountain. Although this area is somewhat restricted, room now exists for the Aquatrain pipeline.

From the junction of Nevada State Highway 38 and U.S. Highway 93, the corridor follows the White Pine-Las Vegas Corridor 2 to the Harry Allen proposed power plant. The Fish and Wildlife Service has applied to the Department of the Interior to expand the Desert National Wildlife Range eastward to U.S. Highway 93. No known major environmental concerns would be involved in building a pipeline parallel but on the east side of U.S. Highway 93 (Map 1-2; corridor segment N13 to N15 via N27 and N16).

#### ELIMINATED CORRIDORS

<u>Corridor</u>	<u>Reason(s) Not Recommended in Phase II</u>
BLM Maintained Road 2118 Corridor northwest of Caliente, Nevada	Adds unneeded length to pipeline route, and terrain along corridor would constrain pipeline construction.
Cathedral Gorge-Kane Springs Corridor	Adds unneeded length to pipeline route

#### 3.1.15 Las Vegas Valley Area Routes

#### RECOMMENDED CORRIDORS

Because of urbanization and land use concerns and environmental and political sensitivities, the Corridor Study identified routes rather than corridors through the Las Vegas Valley area. The following six routes are being recommended for further consideration for EIS scoping.

1. Rocky Mountain Pipeline Project (RMPP), BLM-Preferred Route
2. RMPP, East Las Vegas Variation Route
3. West Las Vegas Route
4. Navajo-McCullough Right-of-Way Route (excluding the portion through the city of Henderson). The route would use the RMPP, BLM-Preferred Route through Henderson
5. Lake Mead National Recreation Area Route
6. RMPP Interconnect Route

In addition, the Interstate Highway 515 proposed route and the proposal for expanding U.S. Highway 95/93 are being recommended for further consideration for EIS scoping. These two route segments are variations of the RMPP, East Las Vegas Variation Route. Section 2.2.6 describes each route in detail.

## ELIMINATED CORRIDORS

<u>Corridor</u>	<u>Reason(s) Not Recommended in Phase II</u>
Portion of the Navajo-McCullough Right-of-Way Route through the city of Henderson	Current litigation with the city of Henderson over the use of this route for an IPP transmission line.
Allen-El Dorado Route	Same as Navajo-McCullough Right-of-Way Route through the city of Henderson. In addition, the terrain crossed by this route is unsuitable for pipeline construction, and construction might disturb desert bighorn sheep habitat in the River Mountains.

### 3.1.16 Harry Allen Proposed Power Plant Site to Ivanpah Proposed Power Plant Site

## RECOMMENDED CORRIDORS

The Corridor Study recommends two corridors to connect the Harry Allen proposed power plant site to routes through the Las Vegas Valley area.

- a. From the plant site south to U.S. Highway 93 and then northwest to the beginning of the **West Las Vegas Route** (Map 1-2; corridor segment N15 to N27 via N16).
- b. From the plant site south to U.S. Highway 93 and then southeast to the beginning of the **RMPP, BLM-Preferred Route** or the **RMPP, East Las Vegas Variation Route** (Map 1-2; corridor segment N15 to N17 via N16).

Three corridors are recommended to connect the Las Vegas Valley area routes to the proposed Ivanpah power plant.

- a. Following the **RMPP, BLM-Preferred Route** south from the Las Vegas Valley area and then to the IPP South Corridor southwest to the plant site (Map 1-2; corridor segment N37 to CA1 via N18 and N19).
- b. Following the **RMPP, East Las Vegas Variation Route** south from the Las Vegas Valley area and then the **IPP South Corridor** southwest to the plant site (Map 1-2; corridor segment N36 to CA1 via N19).
- c. At the intersection of the **West Las Vegas Route** and the **Lake Mead National Recreation Area Route**, this corridor continues south along Interstate Highway 15 to the plant site (Map 1-2; corridor segment N28 to CA1).

The corridors between the proposed power plants have had environmental assessment work in the Allen-Warner Valley Energy System EIS, 1981; IPP EIS, 1979; and the RMPP EIS, 1981. The corridor segments both north and south of

the Las Vegas Valley area could be used by the Aquatrain pipeline. Adverse impacts to desert tortoises, however, would need to be mitigated during pipeline construction.

#### ELIMINATED CORRIDORS

No other corridors were considered in this area.

#### 3.1.17 Ivanpah Proposed Power Plant Site to Potential Export Sites at Los Angeles and Long Beach, Oxnard, and Gaviota

#### RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration one main east-west corridor to connect the Ivanpah proposed power plant site to a point south of Yermo, California.

This corridor follows the **Ivanpah-Long Beach Corridor 1**, which follows CDCA Corridor BB to south of Yermo (Map 1-2; corridor segment CA1 to CA9). This corridor is being recommended for further consideration for EIS scoping because it follows an energy and utility corridor designated in the CDCA Plan.

From Yermo, three separate corridor segments could lead to the export sites at Los Angeles, Long Beach, Oxnard, and Gaviota.

1. From Yermo to the ports of Los Angeles and Long Beach, the corridor continues to follow **Ivanpah-Long Beach Corridor 1**. This corridor follows CDCA Corridor D to Victorville and then parallels Interstate 15 through Cajon Pass to its junction with Interstate 10. From this junction the corridor follows the proposed route for the Sohio Pipeline Project to the port of Long Beach (Map 1-2; corridor segment CA9 to CA6 via CA5 and CA10).

This corridor follows a CDCA-designated energy and utility corridor, parallels Interstate 15 through Cajon Pass--a energy corridor designated by San Bernardino National Forest--and follows the Sohio Pipeline Project corridor to Long Beach.

2. From Yermo to the port of Oxnard, this corridor follows CDCA **Corridor G** to west of Mojave, where Corridor G intersects CDCA Corridor A. At this intersection, the corridor follows the **Central Nevada-Oxnard Corridor**, paralleling California State Highways 14 and 126 to Oxnard (Map 1-2; corridor segment CA9 to CA13 via CA5, CA11, and CA12).

This corridor follows CDCA-designated energy and utility corridors and state road rights-of-way through broad valleys. Because State Highway 126 crosses an orange grove for several miles, pipeline construction would have to minimize impacts to grove operators.

3. From Yermo to Gaviota, this corridor follows CDCA **Corridor G** to west of Mojave, where it then follows the **Gaviota Corridor**, which follows the All-American Pipeline proposed route to Taft. From Taft,

the corridor follows the Getty Oil Company's proposed pipeline corridor to Gaviota, using one of three alternatives through Los Padres National Forest (Map 1-2; corridor segment CA9 to CA8 via CA4, CA7, CA17, and CA18).

This corridor follows a designated energy and utility corridor within the CDCA and two proposed pipeline corridors (All-American and Getty Oil Company) that are expected to have EIS assessments completed within the next 2 to 3 years.

## **ELIMINATED CORRIDORS**

<u>Corridor</u>	<u>Reason(s) Not Recommended in Phase II</u>
The portion of Ivanpah-Long Corridor 2 using CDCA energy and utility Corridor D between Yermo and the California-Nevada border	CDCA Corridor D is less direct and does not pass directly by the proposed Ivanpah power plant site.
CDCA energy and utility Corridor H	CDCA Corridor H fails to meet project needs by not tying into CDCA Corridors BB and D.

### **3.1.18 Ivanpah Proposed Power Plant Site to Blythe Proposed Plant Site**

## **RECOMMENDED CORRIDORS**

The Corridor Study recommends no direct corridors between the Ivanpah and Blythe proposed power plant sites, but it does recommend for further consideration one north-south corridor that would require a spur segment to the Ivanpah proposed power plant site.

This corridor follows the **RMPP, BLM-Preferred Corridor** south to the Nevada-California border. A spur segment following the **IPP South Corridor** (south of Las Vegas, Nevada) is needed to connect to the Ivanpah proposed power plant site. At the Nevada-California border, the corridor follows **Highway 95-Corridor J**, following the RMPP, BLM-Preferred Alternative, which merges with CDCA Corridor F. The corridor then follows Corridor F and U.S. Highway 95 and merges with and follows CDCA Corridor J to the Blythe proposed power plant site (Map 1-2; corridor segment CA1 to CA15 via N19, N29, and CA14).

The corridor is being recommended for further consideration for EIS scoping because it is the only north-south corridor between the two proposed power plant sites. For its entire length this corridor follows EIS-assessed energy and utility corridors and an existing road right-of-way. The RMPP, BLM-Preferred Alternative, the IPP spur corridor segment, and CDCA Corridors F and J have been environmentally cleared with the RMPP, IPP, and CDCA EISs. The corridor segment following U.S. Highway 95 has not been environmentally cleared and would require an amendment to the CDCA Plan to link Corridors F and J.

## ELIMINATED CORRIDORS

<u>Corridor</u>	<u>Reason(s) Not Recommended in Phase II</u>
CDCA energy and utility Corridor E	Adds unneeded miles to pipeline route.
CDCA energy and utility Corridor I	Adds unneeded miles to pipeline route.
CDCA Contingent Corridor Y	Fails to meet project needs because it heads in an east-west direction.
CDCA energy and utility Corridor G from Yermo, California to the California-Arizona border	Same as identified for contingent Corridor Y.
CDCA energy and utility Corridor H from Ludlow, California to south of Essex California.	Same as identified for contingent corridor Y.

### 3.1.19 Blythe Proposed Power Plant Site to Potential Export Sites at Los Angeles, Long Beach, Oxnard, and Gaviota

## RECOMMENDED CORRIDORS

The Corridor Study recommends for further consideration one main east-west corridor leading from the Blythe proposed power plant across the California desert and into the Los Angeles Basin.

From the Blythe proposed power plant site to the junction of Interstate Highways 10 and 15, this corridor follows the **Blythe-Long Beach Corridor**, which follows CDCA Corridor K, which merges with the Sohio proposed pipeline corridor paralleling Interstate 10 to its junction with Interstate 15 (Map 1-2; corridor segment CA15 to CA10). This corridor is being recommended for further consideration for EIS scoping because it follows both a corridor designated in the CDCA Plan, 1980, and a route assessed in the Sohio Pipeline Project EIS, 1976.

From the junction of Interstate Highways 10 and 15, three corridor segments lead to potential export sites at Los Angeles, Long Beach, Oxnard, and Gaviota.

1. From the junction of Interstate Highways 10 and 15, the corridor continues to follow the **Blythe-Long Beach Corridor**, which follows the Sohio pipeline corridor to the ports of Long Beach and Los Angeles. This corridor is being recommended for further consideration for EIS scoping because it follows an EIS-assessed route through the urbanized Los Angeles Basin (Sohio Pipeline Project EIS, Proposed Action Route) (Map 1-2; corridor segment CA10 to CA6).
2. From the junction of Interstate Highways 10 and 15, the corridor follows the **Central Nevada-Long Beach Corridor** north, following Interstate Highway 15 through Cajon Pass to U.S. Highway 395, north along U.S. Highway 395 to **Corridor C** north of Victortown, along



Corridor C to the **Central Nevada-Oxnard Corridor** in Antelope Valley. The corridor then follows State Highway 14 to State Highway 126 to the port of Oxnard (Map 1-2; corridor segment CA10 to CA13 via CA5, CA11, and CA12).

This corridor is being recommended for further consideration for EIS scoping because it follows road rights-of-way and designated energy and utility corridors. A pipeline along the corridor segment following U.S. Highway 395 north would require a CDCA Plan amendment because this segment is not a designated energy and utility corridor.

3. From the junction of Interstate Highways 10 and 15, this corridor follows the **Central Nevada-Long Beach Corridor** north, following Interstate 15 through Cajon Pass to U.S. Highway 395. The corridor goes north along U.S. Highway 395 to CDCA Corridor G, went to the **Gaviota Corridor**, which continues along Corridor G to the proposed corridor for the All-American Pipeline Project leading to Taft. It follows this proposed pipeline corridor to the proposed corridor for Getty oil pipeline to Gaviota (Map 1-2; corridor segment CA10 to CA8 via CA5, CA11, CA4, CA7, CA17, and CA18).

This corridor is being recommended for further consideration for EIS scoping because it follows road rights-of-way, designated energy and utility corridors, and the proposed routes of oil pipelines that are expected to have EISs completed within the next 2 to 3 years. A pipeline along the corridor segment that parallels U.S. Highway 395 north would require a CDCA Plan amendment because this segment is not a designated energy and utility corridor.

#### **ELIMINATED CORRIDORS**

<u>Corridor</u>	<u>Reason(s) Not Recommended in Phase II</u>
CDCA Contingent Corridor S	Requires an amendment to the CDCA plan.

#### **3.1.20 Blythe Proposed Power Site to Mexican Border**

#### **RECOMMENDED CORRIDORS**

The Corridor Study recommends for further consideration one corridor to connect the Blythe proposed power plant site to the United States-Mexico border (Map 1-2; corridor segment CA15 to CA16).

This corridor follows the **Blythe-Mexico Corridor**, which follows CDCA Corridor J from south of Blythe, California to the United States-Mexico border (west of Yuma, Arizona). This corridor is being recommended because it is a designated 2-mile-wide energy and utility corridor that would meet project needs for a potential export facility on the Gulf of California.

#### **ELIMINATED CORRIDORS**

No other corridors were considered in this area.

### 3.2 DETAILED CORRIDOR ANALYSIS (Green River to IPP)

#### CORRIDORS TO BE FURTHER EVALUATED

Three corridors between Green River, Utah and the Price-San Rafael coal and saline water source and six corridors between the Price-San Rafael coal and saline water source and the IPP power plant are being presented for further evaluation (see screening criteria in Table 3-1). The Hunter power plant near Castle Dale was chosen for analysis only as a central point in the detailed screening to represent the coal and saline water supplies. These six latter corridors are alternatives to three basic corridors: (1) the corridor north from Castle Dale that intersects corridors studied for the proposed RMPP; (2) the direct-line corridor from Castle Dale to the IPP plant; and (3) the corridor south from Castle Dale, following Interstate Highway 70 and other existing corridors to the IPP plant. The specific corridors are described as follows.

#### CORRIDORS BETWEEN GREEN RIVER AND THE HUNTER POWER PLANT

##### 1. U.S. Highway 6 Corridor

- a. This corridor follows the **Green River-Price Corridor**, paralleling U.S. Highway 6 and the Denver and Rio Grande Western Railroad from Green River northward to Price (Map 1-1; corridor segment U1 to U2). This is an alternative corridor across an area of gentle terrain that is relatively unrestricted by development.
- b. Continuing to the south, this corridor follows the **Castle Valley Corridor**, paralleling State Highway 10 to the Hunter power plant (Map 1-1; corridor segment U2 to U6 via U3 and U4). It follows a corridor of existing highway and utility uses across flat to gentle terrain that is relatively unrestricted by development.

No land use planning constraints are expected for a pipeline over this corridor. See Table 3-1, Aquatrain Corridor Assessments, for a summary of engineering and environmental concerns.

##### 2. Cedar Mountain Corridor

- a. This corridor follows the **Green River-Castle Dale-Huntington Corridor**, paralleling an existing transmission line from Green River west past Cedar Mountain to State Highway 10 (Map 1-1; corridor segment U1 to U4). This corridor provides an alternative across gentle terrain along an existing utility corridor that has been assessed by the First Unit-Huntington Generating Station and 345kV Transmission Line EIS, 1973.
- b. Continuing to the south, this corridor follows the **Castle Valley Corridor**, paralleling State Highway 10 to the Hunter power plant (Map 1-1; corridor segment U4 to U6), crossing gentle valley terrain along an existing highway and other existing or proposed utility rights-of-way.

No land use planning constraints are expected for a pipeline over this route as long as the pipeline avoids Mexican Mountain WSA. See Table 3-1, Aquatrain Corridor Assessments for a summary of engineering and environmental concerns.

### 3. San Rafael Swell Corridor

- a. This corridor follows the **San Rafael Swell Corridor**, paralleling Interstate Highway 70 west from Green River through the San Rafael Swell to Interstate 70's junction with State Highway 10 (Map 1-1; corridor segment U1 to U7).
- b. Continuing to the north, this corridor follows the **Castle Valley Corridor**, paralleling State Highway 10 from its junction with Interstate 70 to the Hunter power plant (Map 1-1; corridor segment U7 to U6). The corridor parallels an existing highway, portions of an existing transmission line, and environmentally assessed potential utility rights-of-way.

The corridor segment that parallels Interstate 70 may not be able to be developed because Interstate 70 is designated as a scenic corridor in BLM's San Rafael Resource Area's Management Framework Plan, 1979. The plan does not permit future surface occupancy (facility development) or resource exploration along Interstate 70 between its junctions with State Highways 10 and 24. See Table 3-1, Aquatrain Corridor Assessments, for a summary of engineering and environmental concerns.

## CORRIDORS BETWEEN THE HUNTER POWER PLANT AND THE IPP POWER PLANT

### 1. Huntington-Mill Creek Corridor

- a. This corridor follows the **Huntington-Mill Creek Corridor**, paralleling an existing transmission line between the Hunter power plant and Gilluly. The corridor then follows Soldier Creek Canyon to the intersection with the proposed **RMPP Corridor** (Map 1-1; corridor segment U6 to U10 via U5, U8, and U9). This corridor provides an alternative around the Wasatch Plateau. All segments have been analyzed in previous EISs.
- b. Continuing to the southwest, this corridor parallels the **RMPP Corridor** to Nephi, Utah, and then parallels the proposed **RMPP, Central Nevada Corridor** segment to the IPP plant (Map 1-1; corridor segment U10 to U14 via U11, U12, and U13). The corridor is presented for further evaluation because it follows a corridor that has been environmentally assessed for a proposed underground pipeline (RMPP).

The corridor parallels existing and proposed corridors, and the segment that follows the Mill Creek segment across the national forest will probably be designated as an aboveground and underground utility corridor by the Manti-LaSal National Forest Land and Resource Management Plan. Forest Service land use constraints will apply to any pipeline crossing National Forest System lands.

## 2. Mountain Fuels Corridor

- a. This corridor follows the **Castle Valley Corridor** along State Highway 10 north and parallels the existing Mountain Fuels natural gas pipeline (**Mountain Fuels Pipeline Corridor**) west across the Wasatch Plateau to Indianola (Map 1-1; corridor segment U6 to U11 via U4, U3, U2, and U9). This corridor follows a potential utility corridor across Manti-LaSal National Forest and the Wasatch Plateau.
- b. Continuing to the west, this corridor follows the **RMPP Corridor** to Nephi, Utah, and then follows the **RMPP, Central Nevada Corridor** to the IPP plant (Map 1-1; corridor segment U11 to U14 via U12 and U13). This corridor is recommended because it follows a corridor that has had previous environmental assessment for an underground pipeline (**RMPP**).

Forest Service land use constraints will apply to any pipeline crossing National Forest System lands.

## 3. Huntington-Mount Pleasant Corridor

- a. This corridor follows the **Huntington-Mill Creek Corridor**, paralleling the electrical transmission line right-of-way north from the Hunter power plant to a point southeast of the Huntington power plant (Map 1-1; corridor segment U6 to U28 via U5). The corridor follows an environmentally assessed transmission line over gently rolling terrain.
- b. Continuing to the west, this corridor follows the **Huntington-Mount Pleasant Corridor**, paralleling an existing electrical transmission line past the Huntington power plant and across the Wasatch Plateau, to its intersection with the **RMPP Corridor** east of Salt Creek Canyon (Map 1-1; corridor segment U28 to U12, via U15 and U16). The corridor follows a transmission line that has been environmentally assessed in an EIS.
- c. Continuing westward, this corridor parallels the **RMPP Corridor** to Nephi, Utah, and then follows the **RMPP, Central Nevada Corridor** segment to the IPP power plant (Map 1-1; corridor segment U12 to U14 via U13). This corridor is presented for further evaluation because it follows a corridor that has been environmentally assessed for a proposed underground pipeline.

This corridor parallels existing utility routes. Forest Service land use constraints will apply to any pipeline crossing National Forest System lands. The segment across the Wasatch Plateau will probably be designated as an aboveground or underground corridor in the Manti-LaSal National Forest Land and Resource Management Plan. See Table 3-1, Aquatrain Corridor Assessments, for a summary of engineering and environmental concerns.

#### 4. Cottonwood Canyon Corridor

- a. This corridor follows the Huntington-Mill Creek Corridor, paralleling the electrical transmission line right-of-way from the Hunter power plant to a point 5 miles north of the plant (Map 1-1; corridor segment U6 to U5). The corridor follows an environmentally assessed transmission line over gently rolling terrain.
- b. Continuing west, this corridor follows a portion of the Ephraim Corridor along State Highway 29 to Cottonwood Canyon. The corridor then heads north, following the Cottonwood Canyon Corridor to its intersection with the Huntington-Mount Pleasant Corridor in Upper Joes Valley (Map 1-1; corridor segment U5 to U16 via U17). The corridor has not had previous environmental assessment but would serve as an alternative corridor around Meetinghouse Canyon on the Huntington-Mount Pleasant Corridor.
- c. Continuing west, this corridor follows the Huntington-Mount Pleasant Corridor, paralleling an existing electrical transmission line right-of-way west across the Wasatch Plateau to its intersection with the RMPP Corridor east of Salt Creek Canyon (Map 1-1; corridor segment U16 to U12). The corridor follows a transmission line that has been environmentally assessed in an EIS.
- d. Continuing west, this corridor parallels the RMPP Corridor to Nephi, and then follows the proposed RMPP, Central Nevada Corridor segment to the IPP power plant (Map 1-1; corridor segment U12 to U14 via U13). The corridor follows an alignment covered in a previous environmental evaluation for a proposed underground pipeline.

The corridor follows existing utility routes, except through Cottonwood Canyon. Forest Service land use constraints will apply to any pipeline crossing National Forest System lands. The corridor across the Wasatch Plateau follows a potential aboveground and underground utility corridor to be designated in the Manti-LaSal National Forest Land and Resource Management Plan. See Table 3-1, Aquatrain Corridor Assessments, for a summary of engineering and environmental concerns.

#### 5. Salina Canyon-Leamington Pass Corridor

- a. This corridor follows the Salina Canyon-Leamington Pass Corridor, paralleling State Highway 10 from the Hunter power plant south through Castle Valley to Interstate Highway 70, turning west and following Interstate 70. West of Salina, Utah, the corridor follows the Sigurd-Gonder transmission line northward to Scipio (Map 1-1; corridor segment U6 to U19 via U7).
- b. This corridor follows a new course from Scipio north and then head west through Leamington Pass to the IPP plant (Map 1-1; corridor segment U19 to U14 via U18). This corridor is being presented for further evaluation because Fishlake National Forest is likely to designate a utility corridor through Leamington Pass.

Forest Service land use constraints will apply to any pipeline crossing National Forest System lands. See Table 3-1, Aquatrain Corridor Assessments, for a summary of engineering and environmental criteria.

## 6. Salina Canyon-Scipio Pass Corridor

- a. This corridor follows the **Salina Canyon-Scipio Pass Corridor**, paralleling State Highway 10 from the Hunter power plant south through Castle Valley to Interstate 70. The corridor heads west, paralleling Interstate 70 to the Sigurd-Gonder transmission line west of Salina, Utah, and then follows this transmission line northward to Scipio (Map 1-1; corridor segment U6 to U19 via U7).
- b. Continuing to the west, this corridor parallels the Sigurd-Gonder transmission line through Scipio Pass and then follows the RMPP, **West Salt Lake Corridor** northward to the IPP plant (Map 1-1; corridor segment U19 to U14 via U20, U21, U22, and U23). This corridor is being recommended for further evaluation because most of it has been previously assessed as a potential pipeline corridor (RMPP).

Forest Service land use constraints will apply to any pipeline crossing National Forest System lands. The Fishlake National Forest Land and Resource Management Plan is likely to designate a corridor through Leamington Pass. See Table 3-1, Aquatrain Corridor Assessments, for a summary of engineering and environmental concerns.

### ELIMINATED CORRIDORS

<u>Corridor</u>	<u>Reason(s) Not Recommended in Phase II</u>
Portion of <b>Price Canyon Corridor</b> north from Price along U.S. Highway 6 through the Price River Canyon to Gilluly	Price River Canyon is extremely rugged and is constricted because of the presence of the highway, the Price River, a railroad, a power plant, electrical transmission lines, coal mining, and other facilities
<b>Ephraim Corridor</b>	The corridor follows no existing or proposed utility corridors and crosses exclusion and avoidance areas in the Manti-LaSal National Forest. In addition, areas of severe slope instability occur across the Wasatch Plateau and the San Pitch Mountains.

### 3.3 CORRIDOR ASSESSMENTS

The BLM Aquatrain Corridor study team and the Bureau of Reclamation Aquatrain Project Staff developed screening criteria to evaluate for feasibility and suitability of 11, 1-mile-wide corridors identified in Section 3.2. These criteria were based on engineering design requirements, natural constraints, land use plans, experience from the analyses of terrain and similar kinds of pipeline rights-of-way, and input from the affected land managing agencies. The study team used BLM Manual 2800 Rights-Of-Way Criteria for delineating corridors and rights-of-way.

The study team identified and described the screening criteria in a matrix (Table 3-1), using the needed evaluation factors and an interdisciplinary approach.

**CHAPTER 4**  
**CONSULTATION AND COORDINATION**





## Chapter 4 Consultation and Coordination

The Bureau of Land Management (BLM), Division of Environmental Impact Statement Services consulted with many individuals in collecting data for this Corridor Study. Contacts included representatives from BLM and Forest Service (FS) offices in Wyoming, Colorado, Utah, Arizona, Nevada, and California; from the Utah State Highway Commission, the Colorado Department of Highways, and the Colorado Office of State Planning and Budgeting; and from planning entities in the Las Vegas Valley area.

Data collection consisted of two phases. Phase I involved detailed data acquisition and a literature search of all existing and formally designated corridors and potential corridor rights-of-way within the proposed study area in Wyoming, Colorado, Utah, Arizona, Nevada, and California.

This effort required traveling to or otherwise contacting each affected state to gather environmental and land use planning documents and related data, to discuss problem areas, to develop environmental criteria, and to obtain other pertinent information relating to the Corridor Study (land use plans, EISs). See Table 4-1 for contacts who were the source of much of the information for the Corridor Study.

Phase II involved the evaluation and screening of selected corridors, using detailed engineering and environmental screening analysis criteria to identify corridors that would be compatible with planning the location of the Aquatrain pipeline.

TABLE 4-1  
Sources for Corridor Study Information

State	Agency	Location	Persons Contacted
Wyoming	BLM	*Rock Springs District and *Salt Wells Resource Area	Bill McMahan, Environmental Coordinator
		Overland Resource Area of the Rawlins District	Barbara Hollway, Realty Specialist
Colorado	BLM	*Craig District	Dan Martin, Chief, P&EC
		*Little Snake Resource Area	Bob Haburchak, Area Manager Terry Hueth, Soil Scientist
		*White River Resource Area	"Rocky" Curnutt, Surface Reclamation Specialist
		*Grand Junction District	Larry Porter, Chief, P&EC
		*Grand Junction Resource Area	Mack Berta, Area Manager Bob Kline, Environmental Specialist
		*Glenwood Springs Resource Area	Don Owens, Realty Specialist Leonard Coleman, Wildlife Biologist Rex Wells, Visual Resource Specialist Dave Atkins, Minerals Specialist
		FS	Region 2, Denver
		*White River National Forest	John Nepp, Lands Staff Officer Wendy Herrett, District Ranger

\* - Denotes field visits

BLM - Bureau of Land Management, Department of the Interior

FS - Forest Service, Department of Agriculture

TABLE 4-1 (Cont'd.)  
Sources for Corridor Study Information

State	Agency	Location	Persons Contacted
Colorado (Cont'd.)		*Grand Mesa National Forest	Joe Newton, Lands Staff Officer
	Colorado Department of Highways	Denver	Barbara Chocol, Branch Manager, Project Development Branch Fred Trentaz, Mileage Records Unit Manager
Utah	BLM	State Office	Thom Slater, Environmental Coordinator Steve Howard, Environmental Coordinator
		Moab District	Daryl Trotter, Chief, P&EC
		*Price River Resource Area	Leon Berggren, Area Manager Mark Markiewez, Realty Specialist
		*San Rafael Resource Area	Sam Rowley, Area Manager Laurelle Hughes, Realty Specialist
		*Richfield District	Carl Thurgood, Project Manager, Environmental Projects Staff
		*House Range Resource Area	Tom Terry, Realty Specialist Stewart Jacobson, Outdoor Recreation Planner
		*Warm Springs Resource Area	Tom Terry, Realty Specialist
		*Sevier River Resource Area	Jeff Dougherty, Realty Specialist John Branch, Geologist
		Cedar City District	Dave Everett, Environmental Specialist
		FS	Region 4
	Wasatch-Cache National Forest	Garth Heaton, Utah National Forest Liaison Officer	

TABLE 4-1 (Cont'd.)  
Sources for Corridor Study Information

State	Agency	Location	Persons Contacted
Utah (Cont'd.)	FS (Cont'd.)	*Uinta National Forest	Norm Corbridge, Forest Engineer Jerry Smith, Minerals and Energy Staff Gordon Williams, Landscape Architect
		*Manti-LaSal National Forest	Reed Christensen, Forest Supervisor Lee Foster, Forest Planner William Boley, Forest Engineer Brent Barney, Preconstruction Engineer Ira Hatch, Price District Ranger John Niebergall, Ferron District Ranger Walt Nowak, Price District Geologist
		*Dixie National Forest	Ralph Rawlinson, Recreation, Lands, and Minerals Staff Officer
		*Fishlake National Forest	Andy Godfrey, Forest Planner Dave Morin, Land Use Staff Officer
		Federal Highway Administration	Utah Division Office, Salt Lake City
Arizona	BLM	*Arizona Strip District, St. George, Utah	Dennis Carter, Environmental Coordinator
Nevada	BLM	*Las Vegas District	Kemp Conn, District Manager Frank Maxwell, Chief, P&EC Rob Nauert, District Realty Specialist

TABLE 4-1 (Cont'd.)  
Sources for Corridor Study Information

State	Agency	Location	Persons Contacted
Nevada (Cont'd.)	BLM (Cont'd.)	*Caliente Resource Area	Darwin Anderson, Acting Area Manager Richard Gundy, Geologist Eddie Guerrero, Wildlife Biologist Richard Orr, Range Conservationist
		*Stateline-Esmeralda Resource Area	Bill Childress, Acting Area Manager
		*Ely District	George Chupper, Chief, Division of Resources Sharon Holderness, Outdoor Recreation Planner
		*Tonopah Resource Area	Les Monroe, Area Manager
	FS	*Humboldt National Forest, Ely Ranger District	Jack Wilcox, District Ranger
		*Toiyabe National Forest, Tonopah Ranger District	Jan Ford, Wildlife Biologist
	BuRec	Lower Colorado River Basin Regional Office (Boulder City)	Gary Bryant, Chief, Environmental Science Branch Michael Delamore, Environmental Specialist
		*Clark County Planning Department	Richard Holmes, Assistant Director Dennis Bechtel, Principal Planner
		*City of North Las Vegas	R. Jane Poulos, Director Community Planning James A. Bell, City Engineer Bonnie Moore, Urban Planner Charlie Dye, Economic Development Coordinator

TABLE 4-1 (Cont'd.)  
Sources for Corridor Study Information

State	Agency	Location	Persons Contacted
Nevada (Cont'd.)	*Nellis Air Force Base		Lt. Col. Bill Hardy, Airspace Coordinator Barbara Hein, Realty Officer Dean Daily, Base Environmental Engineer Jim McInerney, Range Environmental Engineer Lt. Glen Gerth, Community Planner Bob Dick, Airspace Coordinator
	*Lake Mead National Recreation Area		Newton Sikes, Chief Ranger Bill Burke, Resource Management Specialist
California	BLM	*California Desert District	Hugh Riecken, Associate District Manager Bill Haige, Chief, P&EC Bill Collins, Chief, Planning Jim Williams, District Realty Specialist
		*Indio Resource Area	Brian Winters, Acting Area Manager
		*Needles Resource Area	Beverly Contrey, Realty Specialist Dick Crow, Area Manager
		*Barstow Resource Area	Mike DeKeyrel, Realty Specialist
		*Bishop Resource Area	Jim Morrison, Area Manager Bob Beehler, Outdoor Recreation Specialist
		FS	*Inyo National Forest

**TABLE 4-1 (Concluded)**  
**Sources for Corridor Study Information**

State	Agency	Location	Persons Contacted
California (Cont'd.)		*Angeles National Forest	Hank Hagen, Deputy Forest Supervisor Dick Modee, Land Management Planning Officer Dick Rea, Recreation and Lands Staff Officer
		*San Bernardino National Forest	Gay Almquist, Planning Officer
		*Los Padres National Forest	Gerry Little, Planning Officer Dave Waite, Lands Officer Charles McDonald, Resource Coordinator







Form 1279-3  
(June 1984)

BORROWER'S

HD Aquatrain corridor st

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Bureau of Land Management  
Library  
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Denver, CO 80225



# United States Department of the Interior

## BUREAU OF RECLAMATION

UPPER COLORADO REGION  
SALINE WATER TRANSPORT AND USE OFFICE

P.O. BOX 25007, ERC 190

BUILDING 67, DENVER FEDERAL CENTER

DENVER, COLORADO 80225

March 12, 1984

IN REPLY  
REFER TO: ERC-190

Dear Colleague:

Another milestone in planning the AQUATRAN Project has just been achieved -- the Corridor Study Report. The study, done for Reclamation by the Bureau of Land Management, analyzes various passages the pipeline might take from Wyoming to the Pacific Coast. The enclosed news release describes the report in more detail. A copy of the report is also enclosed for your use, and additional copies are available upon request as the supply lasts.

Our next steps will be to perform additional engineering studies on the recommended corridors to determine appraisal level construction costs. From the information contained in the Corridor Study Report and the cost estimates, we will select a proposed project alignment with alternatives that we will carry forward into scoping and further study during preparation of the environmental statement.

As a result of the transfer of Aquatrain, Inc., to Western Water Reserves, Inc., a thorough review of the project is now in progress. Some changes from previous concepts and routes may occur from this review, as well as from the dynamic, evolving nature of the project. We will continue to inform you of changes as they occur.

Your continuing interest in AQUATRAN is appreciated, and we welcome any questions you may have about the Corridor Study Report or any other aspect of the project.

Sincerely yours,

*Walter E. Ford* **ACTING**

Michael J. Clinton  
Project Manager

Enclosure



## News Release

Upper Colorado Region

Salt Lake City, Utah  
Loveless, (801) 524-5403  
For Release: March 22, 1984



### Corridors Recommended for Aquatrain Pipeline

Possible corridors for a 1,400-mile-long, multipurpose pipeline system - called Aquatrain - are examined in a February 1984 report released today by the Bureau of Reclamation.

"The Aquatrain Corridor Study Report describes alternative paths from Wyoming to the Pacific Coast which would allow the pipeline to serve numerous sources and markets for saline water, coal, and possibly other commodities," said Reclamation's Upper Colorado Regional Director Clifford Barrett.

Aquatrain, a unique cooperative effort between government and private industry, has the dual objectives of reducing Colorado River salinity and providing an economically competitive method of transporting western coal. As now envisioned, Aquatrain could carry a slurry of coal or a high-grade coal product in a liquid carbon dioxide transport medium. Saline water would be transported in separate lines.

The report recommends certain corridors for further study and discusses others which were considered but eliminated as not meeting project needs. Descriptions are included for studied corridors as well as plans and concerns regarding physical resources, natural resources, and land use. Each corridor is shown on maps included in the report.



Aquatrain, cont.

In the process of identifying potential corridors for Aquatrain, formally designated corridors and existing rights-of-way were used to the maximum extent. Corridor widths ranging from several hundred feet to 10 miles were studied, allowing avoidance of sensitive areas when actual pipeline routes are selected at a later date.

Through further studies and feedback from public scoping meetings to be held throughout the project area, preferred corridors and alternatives will be developed in the 1984-86 timeframe. In addition, new corridors may be identified and studied as the Aquatrain concept progresses through the planning and preconstruction phases.

The Aquatrain Corridor Study Report was prepared by the Bureau of Land Management for Reclamation, the lead agency in the project. The Forest Service also participated extensively in the study of corridors in National Forests. Under terms of interagency agreements, BLM and the Forest Service will also assist Reclamation in preparing an environmental impact statement and in acquiring rights-of-way on Federally administered land.

In this cooperative Federal Government/private industry effort, Reclamation represents the public interest and is responsible for environmental analysis, corridor selection, and obtaining federal permits. Aquatrain, Inc., of Boulder, Colo., is the private industry partner in the \$2-3 billion project. The firm has agreed to develop new technologies associated with the pipeline and to obtain financing for construction, as well as a majority of operation and maintenance costs. The Colorado River Salinity Control Forum (representing Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming) is also concerned about the salinity of Colorado River water, and is encouraging the Bureau of Reclamation to find beneficial uses for the saline water, such as Aquatrain.





Aquatrain, cont.

Copies of the Aquatrain Corridor Study Report may be obtained by writing:  
Michael Clinton, Project Manager, Saline Water Transport and Use Office,  
Bureau of Reclamation, ERC-190, P.O. Box 25007, Denver, Colorado 80225.



MONTHLY PROGRESS REPORT  
AQUATRAIN PROJECT  
February 1984

1.0 INTRODUCTION

This report summarizes Saline Water Transport and Use Office planning and related activities on the AQUATRAIN Project for the previous month, and anticipated activities for the coming months. The purpose of the report is to inform individuals involved with AQUATRAIN of current and upcoming activities so that a coordinated effort can be maintained and project flag dates met.

2.0 SUBTEAM: WATER RIGHTS/WATER SUPPLY/STATES ISSUES

2.1 FEBRUARY EVENTS

Jack Barnett of the Colorado River Basin Salinity Control Forum met with representatives of 35 Congressional offices in Washington, DC, to resolve issues relating to S.752 and gain sufficient support to get the bill on the calendar for hearings and voting.

On February 29, Clinton briefed Barnett on the status of the project. The Forum has suggested that David Williams and Tom Clark attend their May 1 meeting in Salt Lake City.

2.2 ANTICIPATED MARCH EVENTS

Wyoming State Planning Coordination Office requested a briefing while McKeever and Clinton are in Cheyenne March 14 to speak to the Rotary Club.

Clinton will speak before Western Colorado Projects Review Conference in Durango on March 8.

Clinton and McKeever will meet with Colorado Department of Natural Resources on March 23.

3.0 SUBTEAM: COAL MARKET/COAL SUPPLY (McKeever)

3.1 FEBRUARY EVENTS

McKeever and Clinton briefed the Utah Coal Operators Association on February 2. The group responded positively to details about the route of the pipeline in their area and expressed a willingness to work with and for AQUATRAIN. They appreciate receiving monthly reports to keep up to date with activities and inquired as to when Bureau of Reclamation public involvement efforts would resume.



Entities in Utah and Wyoming have expressed an interest in the States taking a role on behalf of smaller coal producers. The Wyoming Governor's office has requested a letter detailing the project, related technologies, proposed routes, and a definition of what role the State might take in the project.

The Crow Indians have a supply of coal which is not now being marketed. At the request of the tribe's legal representatives, efforts will be made to meet with the Crow to learn of their possible interest in AQUATRAIN.

### 3.2 ANTICIPATED MARCH EVENTS

McKeever will present a speech to the Interpipe '84 Conference in Houston on March 1.

## 4.0 SUBTEAM: FINANCIAL/ECONOMIC (McKeever)

### 4.1 FEBRUARY EVENTS

Aquatrain, Inc. representatives met with two prospective participants on possible joint venture partnerships.

Hal Aronson, a private consultant and associate of David Williams, is cooperating in AQUATRAIN to help recruit additional private industry partners.

McKeever and Clinton met on February 8 with representatives of Rio Grande Industries. Corridor alternatives now being suggested by Aquatrain, Inc., were discussed, and Rio Grande wishes to be kept informed of progress.

Don Miller of the San Francisco office of Woodward Clyde and Bob McCullough of the Denver office attended the February 10 staff meeting.

Mr. Charles Markell, an attorney representing David Williams in Washington, DC, was given a briefing on AQUATRAIN on February 10 in Denver.

Coastal State Energy received a project briefing on February 24.

### 4.2 ANTICIPATED MARCH EVENTS

David Williams will contact chief executive officers of some major corporations regarding their interest in joint venture partnerships with AQUATRAIN.



## 5.0 SUBTEAM: TECHNICAL/ENGINEERING (Johnson)

### 5.1 FEBRUARY EVENTS

Efforts have been focused on defining various projects which might be pursued in connection with AQUATRAN, and proposed schedules and estimates of staffhours are being formulated. After analysis by Aquatrain, Inc., the proposals will be presented to Reclamation for determination of the nature of its participation. As part of the review process, Aquatrain, Inc., has suggested for consideration a more direct main line project configuration with laterals as needed to serve sources and markets, rather than the "reverse S" configuration.

On March 27, Clinton will meet with Utah Power and Light Company and other western utilities on binary cooling tower studies at Hunter Powerplant.

### 5.2 ANTICIPATED MARCH EVENTS

Due to protracted negotiations and lack of requested technical support from Arthur D. Little, Inc., project schedules continue to slip. As a backstop, Aquatrain, Inc. personnel are preparing preliminary cost estimates and financial analyses based on publicly available technical information.

## 6.0 SUBTEAM: ENVIRONMENT/CORRIDOR/FEDERAL PERMITTING/ ENERGY MANAGEMENT (Fite)

### 6.1 FEBRUARY EVENTS

The Final Corridor Study Report has been received from the printer and is expected to be distributed soon. A news release is being prepared to announce availability of the report.

### 6.2 ANTICIPATED MARCH EVENTS

The EIS schedule will be finalized and distributed for review and comment. Work will begin on the project description which is a prerequisite to starting the EIS.

Statements of work will be prepared for appraisal-level design and cost estimates that need to be performed on the saline water features of the project.

### 6.3 ANTICIPATED APRIL EVENTS

The Interagency Agreement with the Forest Service is undergoing internal review and is expected to be signed by the end of April. It will be a blanket agreement, to be supplemented with working agreements as needed for specific work items.





7.0 SUBTEAM: PLANNING COORDINATION/REPORTS/PUBLIC INVOLVEMENT  
(Stefanec)

7.1 FEBRUARY EVENTS

The National Quarterly of Women in Mining published an article on the project in their January-March issue. An article was supplied to the Daily Rocket Miner newspaper in Rock Springs, Wyoming, for use in their 32nd Progress Edition. A writeup was prepared for distribution at the Western Colorado Projects Review Conference.

The Regional Public Information Office has reviewed the AQUATRAN Public Involvement Report and Plan. Approval has been deferred.

7.2 ANTICIPATED MARCH EVENTS

Stefanec will work closely with ADP User Support to streamline DISPLA graphics software data files for AQUATRAN use. Approximately 100 geographic locations will be identified and coordinates developed for initial input and run.

Stefanec will develop PROPLAN data file of specific planning activities to be completed prior to drafting a Plan Formulation Working Document.

Discussions will continue with Reclamation's Division of Planning Technical Services regarding AQUATRAN and the two-stage planning process reports requirements.

Stefanec will await follow-up contact from Association of American Railroads to discuss issues appropriate to upcoming AQUATRAN socioeconomic analysis.

Advance Work Report is expected for completion.

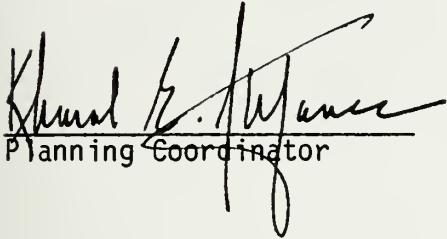
7.3 ANTICIPATED APRIL EVENTS

Merge Plan Formulation Working Document PROPLAN data file with other subteam files. Meet with Regional Planning staff to discuss this schedule.



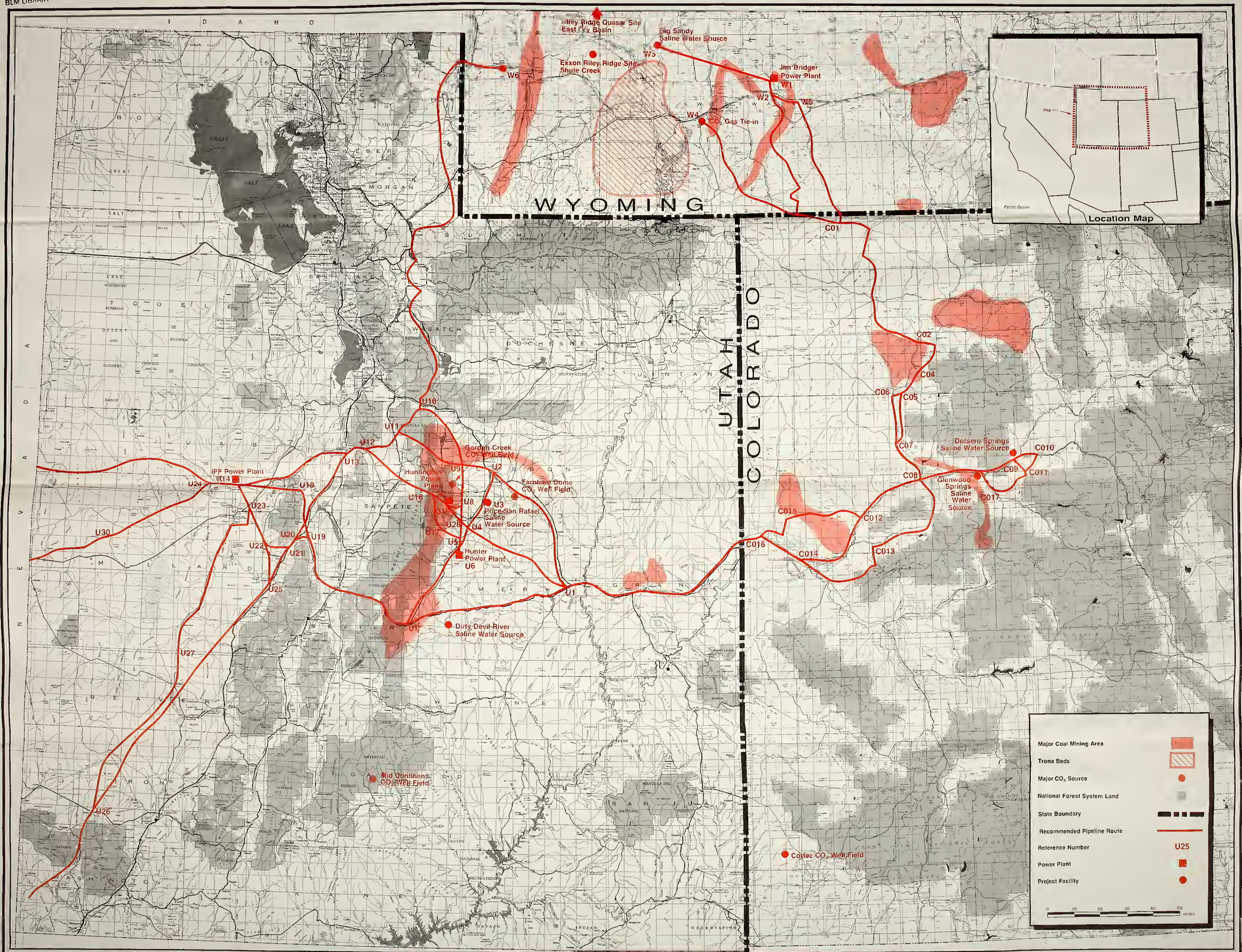
## 8.0 PROJECT CONTROL SCHEDULES (Stefanec)

PROPLAN management schedules have been developed from four subteam detail schedules. Detail and management schedules will be merged in mid-March. Anticipate that May or June monthly report will include updated control schedule attachment.

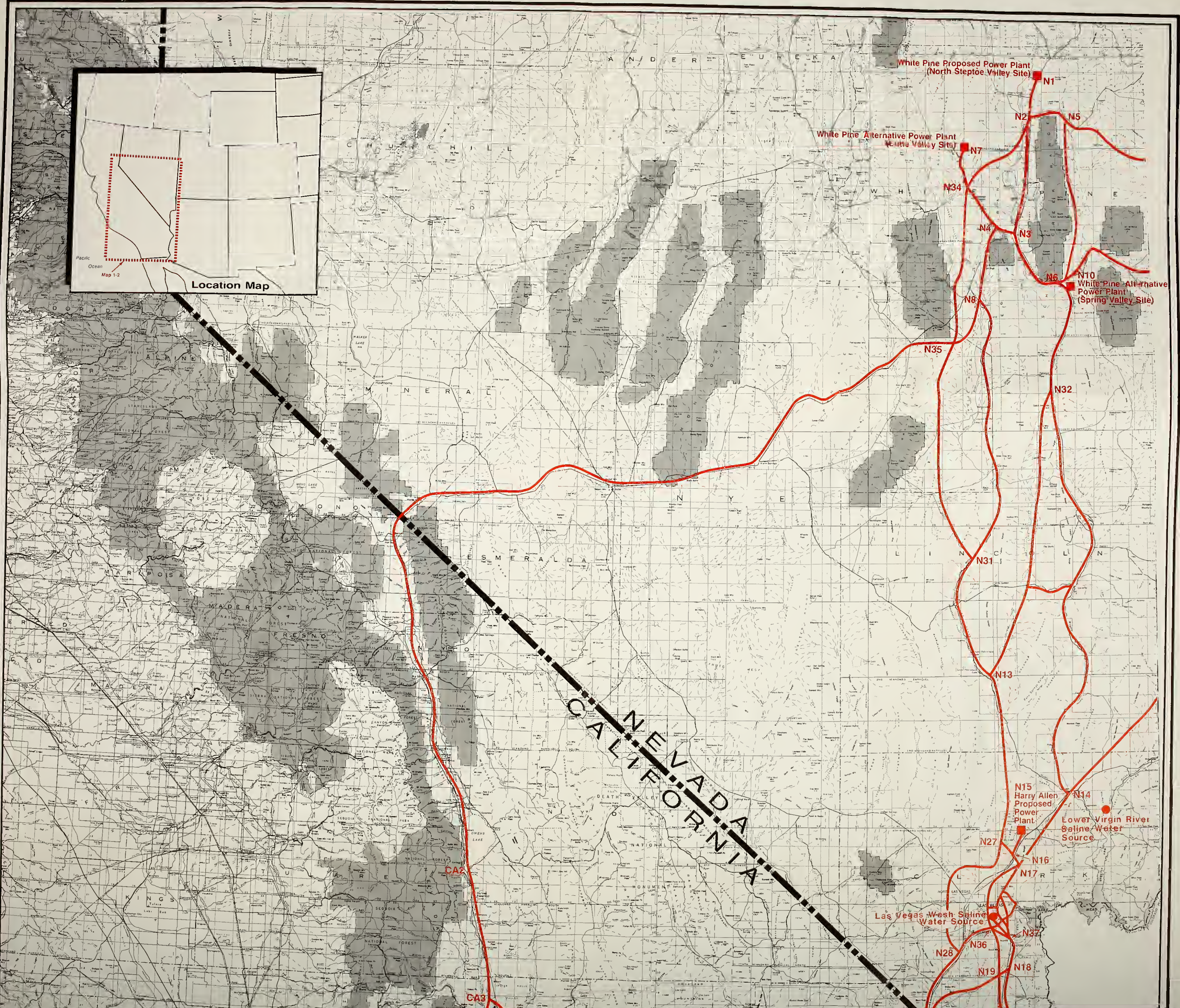
  
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Planning Coordinator

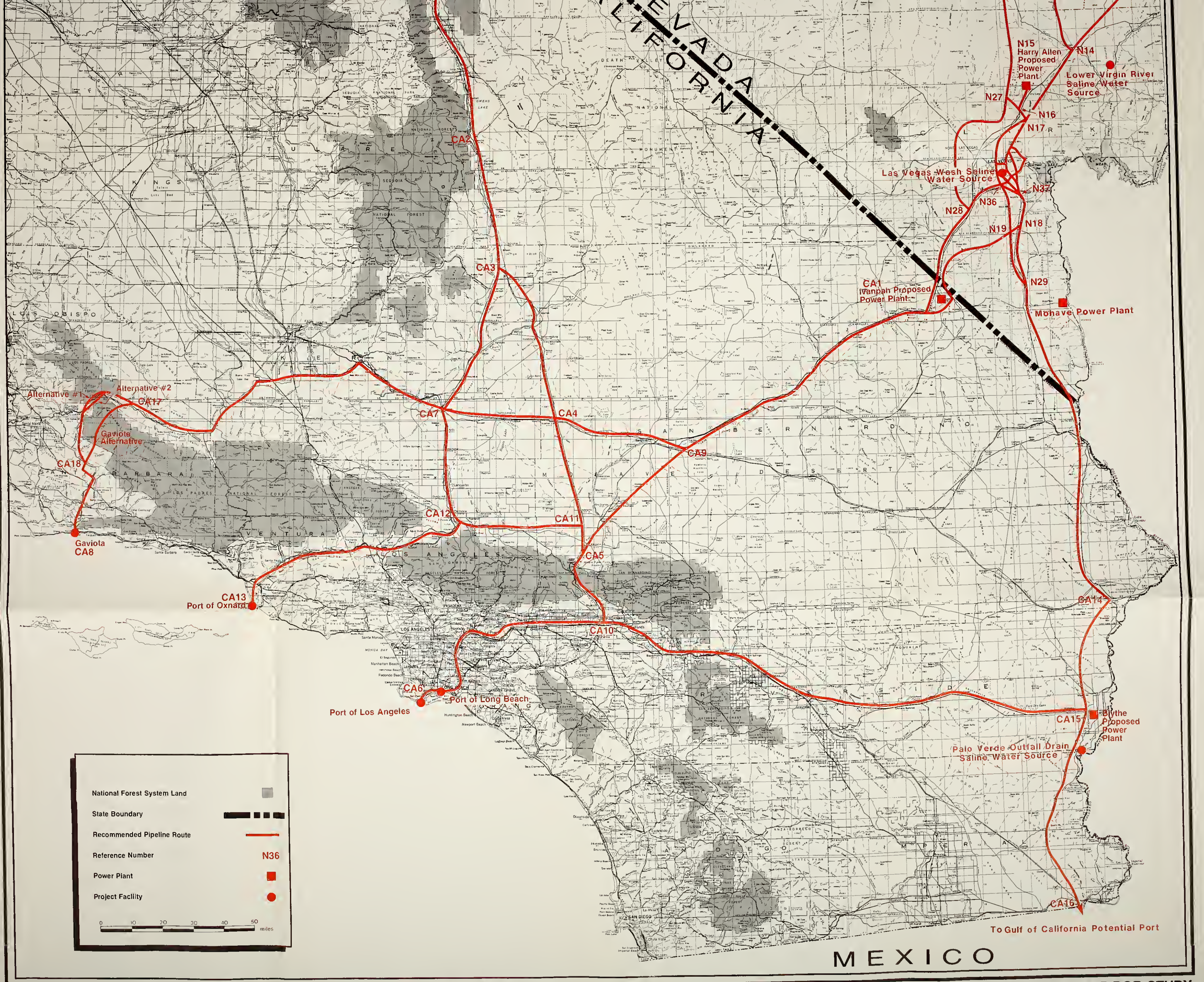
  
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Project Manager





MAP 1-1 POTENTIAL CORRIDORS — WYOMING, COLORADO AND UTAH





MAP 1-2 POTENTIAL CORRIDORS AND ROUTES — CALIFORNIA AND NEVADA





TABLE 3-1  
AQUATRAN CORRIDOR ASSESSMENT

CORRIDOR	ENGINEERING SCREENING CRITERIA											ENVIRONMENTAL SCREENING CRITERIA																									
	LENGTH	ACCESSIBILITY	GEOLOGIC		HYDROLOGIC		TOPOGRAPHIC <sup>4</sup>			SOILS/VEGETATION/AGRICULTURE				GEOLOGY			WILDLIFE AND FISH			THREATENED OR ENDANGERED SPECIES <sup>13</sup>			WILDERNESS		RECREATION RESOURCES			CULTURAL RESOURCE CRITERIA			VISUAL RESOURCES		LAND USE PLANS AND CONSTRAINTS <sup>17</sup>				
			Bedrock Wedges <sup>1</sup> (mi.)	Slope Instability <sup>2</sup> (mi.)	Major River Crossings (mi.)	Shallow Ground Water <sup>3</sup> (mi.)	Valleys, Upland Plains and Fans (mi.)	Very Steep and Extremely Steep Mountains and Canyons (mi.)	Very Severe Erosion Hazard Areas <sup>5</sup> (mi.)	Riparian Areas <sup>6</sup> (mi.)	Forest <sup>7</sup> (mi.)	Crop-lands <sup>8</sup> (mi.)	Low Reclamation Potential <sup>9</sup> (mi.)	Fault Zones <sup>10</sup> (mi.)	Geo-thermal Areas <sup>10</sup> (mi.)	Mineral Areas <sup>11</sup> (mi.)	Seasonal Ranges <sup>12</sup>	Sensitive Species	Unique Habitats <sup>12</sup>	Terrestrial	Aquatic	Vegetative	FS RARE 31 Units	BLM WSAs	National Rivers Inventory (crossings)	State and County Recreation Areas	National Trails <sup>14</sup>	Existing National Register Sites	Potentially Eligible for National Register	Site Density	Cultural Sensitivity <sup>15</sup>	Areas of High Visual Sensitivity <sup>16</sup>	BLM Land Use Plans	Forest Service Land and Resource Management Plans			
U.S. HIGHWAY 6	91	Accessible	0	0	2	14	91	0	0	0	9	0	13	0	2 (0)	0	8 (12)	Pronghorn and Deer year-round range	Some raptor areas	None known	Some may occur; bald eagles near Huntington State Park	Possible if any streams are crossed	Surveys needed; fishhook cactus known in area	None	None	Price River	1 scenic overlook, 2 points of interest	None known	None	None known	Low to Moderate	Moderate	None	Price River and San Rafael MFPs	Does not cross national forest		
CEDAR MOUNTAIN	57	Accessible	0	0	1	8	57	0	0	0	4	2	4	0	3 (0)	0	0 (4)	Pronghorn and deer year-round range	Many raptor areas	None known	Some may occur; possible peregrine falcon areas	None	Surveys needed; fishhook cactus known in area	None	Mexican Mountain WSA	1 recreation area	None known	None	None known	Low to moderate	Low to moderate	Cedar Mountain area for 6 mi.	San Rafael MFP	Does not cross national forest			
SAN RAFAEL SWELL	106	Accessible	0	0	3	2	90	16 (15%)	8	11	2	18	6	11	4 (18)	0	32 (41)	Pronghorn and deer year-round range	Desert bighorn sheep introduced to area; prairie falcon, golden eagle-good raptor area	None known	Some may occur; surveys needed; possible peregrine falcon areas	None	Surveys needed; fishhook cactus known in area	None	San Rafael Reef WSA Side Mountain WSA Devils Canyon WSA	3 scenic overlooks, 2 picnic or rest areas	Old Spanish Trail	None	Trough Hollow Archaeological District	Low to moderate	High	Along 170 for 50 mi between State Highways 24 and 10 (designated as scenic highway corridor by BLM)	San Rafael MFP; 170 between Green River and Fremont Jct is designated as scenic corridor	Does not cross national forest			
HUNTINGTON-MILL CREEK	143	Accessible	26	15	2	22	65	78 (54%)	22	20	22	58	17	20	3 (14)	11	14 (22)	At least 24 miles of big-game range	Raptor areas	None known	Some may occur; surveys needed	Possible if any streams are crossed	Some may occur; surveys needed	Unit 403	None	None	1 scenic overlook, 1 picnic or rest area, 1 state park, 2 wildlife management areas	Dominguez-Escalante Trail	Nephi Mounds north of Nephi	Mormon Road	Low to high	Very high	Salt Creek Canyon 4 mi. east of Nephi River	Leamington Canyon 5 mi. along Sevier River	Wasatch Plateau 2 mi. along Skyline Drive	Price River and San Rafael MFPs	None
MOUNTAIN FUELS	131	Salt Creek Canyon is open, but may become congested if other pipelines are built; existing highway	Leamington Canyon is open, but may become congested; existing highway, other facilities	26	13	2	21	80	51 (39%)	13	18	19	41	18	3 (3)	11	21 (34)	At least 23 miles of big-game range	Raptor areas	None known	Some may occur; surveys needed	Possible if any streams are crossed	Some may occur; surveys needed	Units 405 and 406	None	None	2 scenic overlooks, 1 campground, 1 wildlife management area	Dominguez-Escalante Trail	Nephi Mounds north of Nephi	Mormon Road	Low in east half; high in west half	Very high	Wasatch Plateau along Skyline Drive	Salt Creek Canyon 6 mi. east of Nephi River	Leamington Canyon 5 mi. along Sevier River	Price River, San Rafael, Mountain Valley, and Tonic MFPs	Ferron Price Land Use Plan
HUNTINGTON-MOUNT PLEASANT	115	Salt Creek Canyon is open, but may become congested; existing highway, other facilities	Leamington Canyon is open, but may become congested; existing highway, other facilities	11	8	1	24	77	38 (33%)	10	14	22	37	12	4 (0)	9	13 (21)	At least 52 miles of big-game range	Raptor areas	Elk calving areas, Aspen areas	Some may occur; surveys needed	Possible if any streams are crossed	Some may occur; surveys needed	Units 409 and 413	None	None	1 scenic overlook, 1 picnic or rest area, 1 campground, 1 wildlife management area	Dominguez-Escalante Trail	Nephi Mounds north of Nephi	Mormon Road	Low to high	Very high	Wasatch Plateau Near Skyline Drive and Pottery Ponds	Salt Creek Canyon 6 mi. east of Nephi River	Leamington Canyon 5 mi. along Sevier River	Price River, San Rafael, Mountain Valley, and Tonic MFPs	Ferron Price Land Use Plan
COTTONWOOD CANYON	111	Cottonwood Canyon is open, but is congested by mining	Salt Creek Canyon is open, but may become congested; existing highway, other facilities	11	6	1	23	71	40 (36%)	8	12	20	33	12	6	9	18 (30)	At least 39 miles of big-game range	Raptor areas	Aspen areas	Some may occur; surveys needed	Possible if any streams are crossed	Some may occur; surveys needed	Unit 413	None	None	1 scenic overlook, 1 picnic or rest area, 1 campground, 1 wildlife management area	Dominguez-Escalante Trail	Nephi Mounds north of Nephi	Mormon Road	Low to high	Very high	Wasatch Plateau Near Skyline Drive and Pottery Ponds	Salt Creek Canyon 6 mi. east of Nephi River	Leamington Canyon 5 mi. along Sevier River	San Rafael, Mountain Valley, and Tonic MFPs	Ferron Price Land Use Plan
SALINA CANYON-LEAMINGTON PASS	142	Salina Canyon is restricted by landforms in portions of 35 miles; existing Interstate Highway	Scipio Pass is restricted by landforms; many existing areas, including Interstate Highway; passage appears likely	28	11	5	29	104	38 (25%)	12	12	24	29	15	3 (12)	15	40 (56)	At least 20 miles of big-game range	Raptor areas	None known	Some may occur; surveys needed	Possible if any streams are crossed	Critical habitat for fishhook cactus; surveys needed	None	None	None	3 picnic or rest areas, 1 campground, 1 wildlife management area	Old Spanish Trail	Paraho Village south of Scipio	Trough Hollow Archaeological District	High	Very high	Salina Canyon 30 mi. along I-70	San Rafael, Mountain Valley, and Tonic MFPs	Salina Unit Plan		
SALINA CANYON-SCIPIO PASS	143	Salina Canyon is restricted by landforms in portions of 35 miles; existing Interstate Highway	Scipio Pass is restricted by landforms; many existing areas, including Interstate Highway; passage appears likely	33	11	5	21	106	37 (26%)	12	11	19	30	20	3 (13)	25	40 (56)	At least 20 miles of big-game range	Raptor areas	None known	Some may occur; surveys needed	Possible if any streams are crossed	Critical habitat for fishhook cactus; surveys needed	None	None	None	2 scenic overlooks, 3 picnic or rest areas, 1 campground, 1 wildlife management area	Old Spanish Trail	Paraho Village south of Scipio	Trough Hollow Archaeological District; Mormon Road	High	Very high	Salina Canyon 30 mi. along I-70	Scipio Pass 7 mi. through west along I-15	San Rafael, Mountain Valley, and Tonic MFPs	Salina Unit Plan	
PRICE CANYON <sup>18</sup>	155	Price River Canyon is severely restricted by landforms; many existing uses (questionable passage)	Soldier Creek Canyon is restricted by landforms; many existing uses	24	14	2	16	88	67 (43%)	25	19	18	35	19	2 (8)	8	10 (16)	At least 69 miles of critical deer and elk range	Raptor areas	None known	Some may occur; surveys needed	Possible if any streams are crossed	Some may occur; surveys needed	Unit 403	None	None	2 scenic overlooks, 1 campground, 3 points of interest, 1 wildlife management area	Dominguez-Escalante Trail	Nephi Mounds north of Nephi	Mormon Road	Low in east half; high in west half	Very high	Price River Canyon 8 mi. north from Helper	Soldier Creek Canyon 14 mi. west from Soldier Summit	Salt Creek Canyon 6 mi. east of Nephi	Price River, San Rafael, Mountain Valley, and Tonic MFPs	None
EPHRAIM <sup>19</sup>	95	Straight Canyon is severely restricted for 3 miles; existing road	Leamington Canyon is partially restricted by landforms; many existing uses	23	12	5	16	53	42 (44%)	13	13	16	34	12	3 (0)	15	13 (18)	At least 6 miles of big-game range	Raptor areas	None known	Some may occur; surveys needed	Possible if any streams are crossed	Some may occur; surveys needed	Units 414 and 415	None	None	1 scenic overlook, 1 picnic or rest area, 1 point of interest, 1 wildlife management area	Dominguez-Escalante Trail	None	Mormon Road	Low in east half; high in west half	Moderate	Wasatch Plateau 17 mi. from Salt Creek Canyon to Ephraim	San Pitch Mountains 10 mi. across top of range	San Rafael, Mountain Valley, and Tonic MFPs	Ferron Price Land Use Plan	Passes through exclusion and avoidance areas

<sup>1</sup>Bedrock areas would require a combination of ripping, drilling, and blasting for pipeline construction.  
<sup>2</sup>Length of corridor crossing areas most subject to slides and mass movement.  
<sup>3</sup>At some time during the year the water table lies within 77 inches of surface.  
<sup>4</sup>Topographic - for this screening analysis the following three physiographic units were identified:  
**Valleys, upland plains, and fans** include areas with slopes dominantly ranging from 1 to 12 percent, including short steeper sloping areas bordering intermittent streams and low slopes next to mountain side slopes.  
**The mountain area** includes mountainsides, canyons, crest slopes, narrow elongated floodplains, and associated drainage ways. Slopes are dominantly 9 to 30 percent, including areas of 3 to 9 percent slope in floodplains and on mountain tops and 10 to 70 percent mountainsides. These areas are subject to moderate to high erosion hazards, and 10 to 30 percent of the area is subject to landslides.  
**The very steep and extremely steep mountains and canyons** consist of the steepest topography within the mountainous areas. Slopes are dominantly 45 percent and greater. (This mileage figure represents the steepest sloping portion of the mountain physiographic unit.)  
<sup>5</sup>Very severe erosion hazard areas include areas susceptible to erosion when not adequately protected. Soils identified as extremely eroded by wind are sandy, loamy sand, and silty soils with low organic matter content on hummocky and dunal topography.  
<sup>6</sup>Soils identified are extremely erodible by water. They are very steep sloping soils with high proportions of silt and very fine sand and a low organic matter content. They form from fine-grained sandstones, limestones, and silty clay shale.  
<sup>7</sup>Forest lands include all woodland areas.  
<sup>8</sup>Total average cropland occurring within the corridors. These lands consist mainly of irrigated cropland and pasture. Approximately 30 percent of this total is prime agricultural land.  
<sup>9</sup>Areas with a low reclamation, revegetation, and restoration potential. These areas are highly sensitive and hard to reclaim and revegetate because of the following properties:  
<sup>10</sup>Soil depth to bedrock is 10 inches or less.  
<sup>11</sup>Underlying bedrock is hard.  
<sup>12</sup>Soils have pH values greater than 8.8 or salinity exceeding 16 millimhos in the upper 40 inches.  
<sup>13</sup>Slopes are steeper than 30 percent.  
<sup>14</sup>Sandy soils occur where average annual precipitation is less than 6-8 inches.  
<sup>15</sup>The first number refers to the number of fault zones the corridor would cross; numbers in parentheses refer to length of the corridor either paralleling or lying within a fault zone.  
<sup>16</sup>Length of corridor that would cross areas with potential geothermal water (60°F or greater).  
<sup>17</sup>Length of corridor that would cross coal seams more than 4 feet thick. Numbers in parentheses refer to length of corridor that would cross coal seams regardless of thickness.  
<sup>18</sup>Habitat crossed by corridor.  
<sup>19</sup>Potential to affect threatened or endangered species.  
<sup>20</sup>Trails proposed for study or existing under National Trails System Act.  
<sup>21</sup>A combination of site density and site significance.  
<sup>22</sup>May require special/extensive mitigation based upon conceptual VEM Class/visual quality objectives.  
<sup>23</sup>No local, county, or state land use plans or highway planning constraints were evaluated. MFP represents BLM Management Framework Plans.  
<sup>24</sup>Corridors not recommended for further study.

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